# SOCIAL MEDIA USAGE AND ITS IMPACT ON MALAYSIAN ORGANIZATIONS

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# ABSTRACT

The usage of social media among organizations is growing tremendously. Since investments in these technologies are increasing, it is important to investigate the impact of social media usage on organization. This study, using a mixed method approach investigates the factors that influence the social media usage, the various purposes of using social media, and its subsequent impact on organizational performances. The first phase of the research using web content analysis revealed that Facebook is the most popular social media presence among Malaysian organizations. It was also found that there are a higher percentage of organizations that use Facebook for interactivity with stakeholders. The second phase of the study using in-depth interviews guided the development of the research model for the study. The results of the qualitative analysis showed that social media is used for various purposes in organizations and has a greater positive impact on the organizational performances in terms of customer service, information accessibility, and cost reduction for marketing and customer service activities. Finally, the third phase of the study used the survey method to test and validate the model that was derived from the interviews and literature review. The integrated model with TOE framework as a base was used. The results of the analysis showed that factors such as interactivity, relative advantage, compatibility, and institutional pressure had a positive effect on using social media. Similarly, the usage of social media had a stronger, positive impact on organizational performance. This study, by integrating various theories, develops an integrative model and contributes to the scholarly research, literature of the information systems, and strategic management field. The study also helps organizations to understand the benefits of social media usage and provide justification for social media investments in organizations.

# ABSTRAK

Penggunaan media sosial dalam kalangan organisasi semakin meningkat dengan mendadaknya kini. Memandangkan pelaburan dalam teknologi ini semakin meningkat, maka kajian terhadap impak penggunaan media sosial dalam sesebuah organisasi adalah amat penting. Dalam kajian ini, pelbagai pendekatan telah digunakan untuk mengkaji faktor-faktor yang mempengaruhi penggunaan media sosial, tujuan serta impaknya terhadap prestasi organisasi terbabit. Dalam fasa pertama kajian ini,yang berpandukan kajian melalui laman sesawang, membuktikan bahawa Facebook merupakan laman sosial yang paling popular di kalangan organisasi di Malaysia. Hasil kajian juga mendapati bahawa Facebook turut digunakan sebagai medium interaktif bersama para kumpulan berkepentingan oleh sebahagian besar organisasi. Fasa kedua kajian ini telah menggunakan kaedah temu bual secara mendalam bagi membantu merangka serta membangunkan sebuah model penyelidikan untuk kajian ini. Hasil dari analisa kuantitatif yang telah dijalankan, terbukti bahawa media sosial telah digunakan untuk pelbagai tujuan serta turut memberikan impak yang positif terhadap prestasi sesebuah organisasi dalam pelbagai aspek seperti perkhidmatan pelanggan, capian terhadap informasi, serta pengurangan kos bagi pemasaran dan aktiviti perkidmatan pelanggan. Akhir sekali, kaedah bancian telah digunakan dalam kajian ini bagi menguji serta membuktikan model yang telah dirangka berdasarkan kaedah temubual dan kajian literatur yang telah dijalankan. Model integrasi yang berlandaskan rangka kerja TOE telah digunakan sebagai asas. Hasil analisa ini membuktikan bahawa faktor-faktor seperti keinteraktifan, keuntungan relatif, keserasian, dan tekanan institusi memberikan kesan yang positif terhadap penggunaan media sosial. Penggunaan media sosial juga turut memberikan kesan positif yang kuat terhadap pencapaian sesebuah organisasi. Dengan menggabungkan pelbagai teori, kajian ini telah membina sebuah model integratif yang menyumbang kepada ilmu dalam bidang penyelidikan, literatur bagi sistem informasi, serta bidang pengurusan yang strategik. Selain itu, kajian ini turut membantu organisasi-organisasi untuk lebih memahami serta menggunakan media sosial dengan sewajarnya, dan turut menyediakan justifikasi yang jelas kepada organisasi dalam hal pelaburan media sosial.

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Farzana Parveen Tajudeen

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# LIST OF ABBREVIATIONS

| | |
|---|---|
| ASEAN | Association of South East Asia Nations |
| AVE | Average Variance Extracted |
| CFA | Confirmatory Factor Analysis |
| CRM | Customer Relationship Management |
| CSR | Corporate Social Responsibility |
| DOI | Diffusion of Innovations |
| EFA | Exploratory Factor Analysis |
| eWOM | Electronic Word of Mouth |
| GPRS | General Packet Radio Service |
| GSM | Global System for Mobile Communications |
| HOC | Higher Order Construct |
| IS | Information Systems |
| ISO | International Standards Organization |
| LOC | Lower Order Construct |
| MARTRADE | Malaysia External Trade Development Corporation |
| MICA | Model of Internet Commerce Adoption |
| MMS | Multimedia Messaging Service |
| MSC | Multimedia Super Corridor |
| PLS | Partial Least Square |
| PR | Public Relations |
| RBV | Resource Based View |
| RSS | Really Simple Syndication |
| SCTs | Social Communication Technologies |
| SME | Small and Medium Enterprises |
| SMRs | Social Media Release |

# LIST OF ABBREVIATIONS (CONTINUED)

| | |
|---|---|
| SMS | Short Messaging System |
| SNSs | Social networking sites |
| SOP | Standard Operating Procedures |
| SPSS | Statistical Package for Social Sciences |
| TAM | Technology Acceptance Model |
| TAM_CCM | Technology Acceptance Model _Computer based Communication Media |
| TOE | Technology-Organization-Environment Model |
| WAP | Wireless Application Protocol |
| WOM | Word of Mouth |

# CHAPTER 1 INTRODUCTION

## 1.0 Overview

The Internet technology has changed dramatically in recent years. Emerging new technologies provide abundant opportunities and help organizations to face new challenges of building and managing customer relationships to gain a competitive advantage (Baloglua & Pekcan, 2006, p. 86; Lu, Lai, & Cheng, 2005). Today's social media tools are bringing rapid change to organizational communication and public relations. These new online platforms have shifted the emphasis of Internet services from being consumption-based towards becoming more interactive and collaborative, creating new opportunities for interaction between organizations and publics (Henderson & Bowley, 2010).

Social media is the product of Internet-based applications based on Web 2.0. Web 2.0 is a platform in which software and content are not produced and published by individual companies and people, but are produced and developed by different participants in a continuous and collaborative manner (Laroche, Habibi, Richard, & Sankaranarayanan, 2012). Indeed, Web 2.0 can be thought of as a series of technological innovations that facilitate inexpensive content creation, interaction, and interoperability. According to Berthon, Pitt, Plangger, and Shapiro (2012), Web 2.0 technologies have caused three major effects; it has shifted the locus of activity from the desktop to the web, it has caused a shift in the value production from the firm to the consumer, and it has shifted the power away from the firm to the consumers. Apart from the abovementioned effects, the main concept of Web 2.0 is that it places the lay user rather than the firm at center stage in terms of design, collaboration, and community on the Web.

Web 2.0 represents the technological foundations for social media. Social media includes various online platforms and tools such as social networking, user-sponsored blogs, multimedia sites, company-sponsored websites, collaborative websites, podcasts, etc. Among the various platforms, the Social Networking Sites (SNSs) have recently become more prominent. SNSs such as Facebook, MySpace, and Twitter, attract more than 90% of young adults and teens, and represent over a quarter of all Internet traffic (Hollenbeck & Kaikati, 2012; Trusov, Bodapati, & Bucklin, 2010).

Moreover, social media is the gathering place of a large pool of consumers. It is the repository of consumer information and acts as a means of spreading information to build market presence (Hsu, 2012) . Therefore, social media should be present in businesses and organizations. Organizations which are not having social media presence and ignoring customers' comments on social media will be at great risk (Evans, 2008; Sin, Nor, & Al-Agaga, 2012). This further illustrates that for any organization, effective networking is an essential component to success (Kelley, 2010).

Effective communication can help organizations overcome economic challenges and emerge in the next level ahead of the rest. A study (WatsonWyattWorldwide, 2010), found that organizations with highly effective communication had 47 percent higher total returns to shareholders over the five-year period (mid-2004 to mid-2009) compared to organizations with less effective communicational practices. New communication technologies like social media allow organizations to engage in timely and direct end-consumer contact at relatively low cost, and higher levels of efficiency can be achieved compared to traditional communication tools (Kaplan & Haenlein, 2010).

## 1.1 Malaysian Context

Social networking statistics shows that Facebook penetration in Malaysia is 47.23% compared to the country's population and 83.52% in relation to the number of Internet users. The total number of Facebook users in Malaysia reaches 13,354,900 which make it twentieth in the ranking of all Facebook statistics by country. The largest age group is currently between 18-24 years old with a total of 4,620,520 users, followed by the users of ages between 25-34 years old. There are 54% male users and 46% female users in Malaysia (Socialbakers, 2013).

Apart from individual usage, social media also provides various benefits to organizations. Due to the advantages of social media in connecting businesses to end-consumers directly, in a timely manner and at a low cost (Kaplan & Haenlein, 2010), in influencing customer perceptions and behavior (Williams & Cothrel, 2000) , and in bringing together different like-minded people (Hagel III & Armstrong, 1997; Wellman & Gulia, 1999), it has become the center of attention in different industries. The higher level of efficiency of social media compared to other traditional communication channels prompted industry leaders to state that organizations must participate in Facebook, Twitter, MySpace, and others, in order to succeed in online environments (Kaplan & Haenlein, 2010).

Malaysian organizations have also started to use social media. According to the Burson-Marsteller Asia Pacific 2011 Report, Malaysian firms use social media for corporate communications and marketing activities. The results of the study revealed that among the Southeast Asian organizations, Malaysian, Thai and Filipino organizations have invested strongly in social media. It was also found that South Korean, Australian and

Malaysian organizations are actively promoting their social media channels through their corporate websites (Slover-Linett & Stoner, 2011). This shows that Malaysian organizations have started to realize the importance of social media and are taking it seriously to improve their businesses.

## 1.2 Problem Statement

Social media are characterized by user-generated content, which has been found to be more effective than traditional marketing communications in influencing the attitudes and behaviors of other users (Thackeray, Neiger, Hanson, & McKenzie, 2008). As a result, organizations are now building and maintaining social media public pages to improve their social network salience, enhance interest in their organizations, and build relationships with the online public. Social media is growing as an important strategic tool among organizations (Gomez Vasquez & Soto Velez, 2011). The primary issue with any strategic tool or technology is the degree that its usage benefits the user. Yet, technologies are often employed with little concrete understanding of the advantages they provide (Stone, Good, & Baker-Eveleth, 2007). The belief that technologies provide an advantage (eg. technology is always good), is a driving force in many organizations, as its use is prevalent (Stites, 1999; Wipperfuth, 1999) among marketers as a strategic tool (Good & Stone, 2000). In fact it is quite common to propose that usage of technology provides high benefits to organizations, but in the real world, the results are not always supportive (Grover, Teng, & Fiedler, 1998; Macmillan, 1997). Technologies can in fact have uncertain, little, or no impact on organizational performance (O'Sullivan, 1998).

In the case of social media, many process improvements may be found through efficient social networking programs and organizational connectivity (Leader-Chivée & Cowan, 2008). But at the same time, social networking tools can also create regulatory disclosure, attract legal risks, and waste time (Moorcroft, 2008). Regardless of the existing debate on advantages and disadvantages of social media, investments in these technologies are growing high (Leader-Chivée & Cowan, 2008). A survey by the McKinsey Quarterly on the implementation of Web 2.0 in the business sector showed that more than 75% of organizations planned to maintain or increase their investments in Web 2.0 (Chu et al., 2011).

In 2011, more than 50% of social media users follow brands on social media (Belleghem, Eenhuizen, & Veris, 2011) and companies are increasingly investing in social media, indicated by worldwide marketing spending on social networking sites of about $4.3 billion (Williamson, 2011). Managers invest in social media to foster relationships and interact with customers (SASHBR, 2010; Vries, Gensler, & Leeflang, 2012). This being the case, understanding the degree of such investments improves the firm's performance (Bresnahan, 1998; Fleming, 1999) remains chiefly unexplored (Good & Stone, 2000).

Many organizations in Malaysia have invested in social media (Slover-Linett & Stoner, 2011), but apart from investing it is important for organizations to use social media effectively and strategically to gain its full potential. Solely having a profile will not in itself increase awareness or trigger an influx of participation (Waters, Burnett, Lamm, & Lucas, 2009). For any technology to be successful and to have an impact on organizational performance, it has to be effectively used. Even in organizations that state that they use Web 2.0 applications and tools, it is not understood what the actual

adoption level is (Carswell, 2007; Levy, 2009). This creates pressure to identify the key determinants of successful usage of these Internet-based systems (Hall & Graham, 2004; Lin & Lee, 2006; Preece, 2001) .

Furthermore, social media have revolutionized the marketing practices such as advertising and promotion (Hanna, Rohm, & Crittenden, 2011). Social media has also influenced consumer behavior from information acquisition to post-purchase behavior such as dissatisfaction statements or behaviors (Mangold & Faulds, 2009) and patterns of Internet usage (Ross et al., 2009). Importance of such differences are such that researchers are urged to treat social media as a distinct research area (Hu & Kettinger, 2008; Laroche et al., 2012). However, studies on both social media and marketing with social media are quite new and few (Akar & Topcu, 2011).

Also organizational-level research on social media has not grown as rapidly (Lovejoy & Saxton, 2012). There are academic studies regarding social media but most of the articles are comprised of newspaper and magazine articles, Wikipedia writings, and blogs with limited topics related to social media (Akar & Topcu, 2011; Kim, Jeong, & Lee, 2010).

As mentioned, even though there are some previous studies that examined the determinants of social media usage, most of the studies investigated the social media usage from individual perspective (Agarwal & Mital, 2009; Coyle & Vaughn, 2008; Dekay, 2009; Gangadharbhatla, 2008; Pelling & White, 2009). This shows that studies focusing on social media usage and its subsequent impact on the organizations' performance are relatively low.

Moreover previous researchers suggested that system usage can be measured using a system – centered fashion - measuring tasks for which the IS is used (Burton-Jones & Gallivan, 2007), but still most of the previous IS studies measured usage based on frequency and duration of use only (Min & Fei, 2008). There have been calls to examine the usage construct in detail and investigate different patterns of information system usage behaviors in organizations (Jasperson et al, 2005). However, so far, theoretical advances in this regard are still insufficient (Henri et al, 2007).Therefore this study aims to develop measures for social media usage using the system centered fashion which could measure different purpose of social media usage in organizations.

Although different methodologies are used in IS research, but still there is a lack of research that employs mixed method (Lee & Hubona, 2009; Venkatesh, Brown & Bala, 2013). A review of IS literature states that less than 5 percent of the empirical studies published between 2001 and 2007 in the six major IS journals identified in Senior Scholar's Basket of Journals (AIS, 2007) have employed mixed methods (Venkatesh et al., 2013). The minimal number of mixed methods studies may be due to various reasons such as lack of time or resources to use both methods in a single study. Researchers also hesitate to conduct mixed method research due to the lack of understanding of the methodology itself. The other reason being it is difficult to change research behaviors, in general researcher are very much used to and expert in a particular method (either qualitative or quantitative), so they support and prefer that particular method. Finally disagreements within the mixed methods community also hinder researchers to conduct mixed method research (Creswell, 2010).

Most of the IS adoption or implementations in organizations are widely examined by using either qualitative (e.g., Boudreau and Robey, 2005) or quantitative methods (e.g.,

Venkatesh et al., 2003). Much qualitative research on IS adoption or implementations did not offer insights on the breadth of issues and reactions due to the practical limitations related to the number of managers or stakeholders who could be interviewed and topics that could be covered during the interviews. Similarly, quantitative studies failed to offer deep insights on the context of an IS adoption or implementation as it does not capture the depth of reactions from the respondents (managers or stakeholders). In this case, mixed methods research can potentially offer a holistic understanding of IS adoption and implementation by facilitating high quality meta-inferences, however the use of such methods are limited in IS field (Venkatesh et al., 2013). Researchers also claims that since mixed method helps to explain complex organizational and social phenomena in detail, there is a need for IS researchers to conduct research that employs mixed methods (Cao et al., 2006; Mingers, 2001; Venkatesh et al., 2013).

Therefore with the aim to fill up such gaps, by combining different theories and frameworks and by using mixed methods an integrated model was developed to study the influence of various factors on social media usage and its subsequent impact on organizations.

## 1.3 Research Questions and Objectives

The central aim of the current research is to investigate the impact of social media usage among organizations. The research questions and objectives of the study are discussed below.

The research questions are as follows :-

Question (1): What are the social media tools currently used by the organizations in Malaysia?

Question (2): What is the level and purpose of social media usage among organizations?

Question (3): What are the factors that influence the usage of social media?

Question (4): How does the usage of social media benefit the organizations?

This research attempts to provide answers to these questions by achieving the following research objectives :-

Objective (1): To identify the most widely used social media tools in Malaysia.

Objective (2): To analyze the level and purpose of social media usage among Malaysian organizations using the relationship cultivation strategies.

Objective (3): To investigate the factors that influences the social media usage in organizations.

Objective (4): To ascertain the impact of social media usage on organizations.

## 1.4 Scope of the Study

The scope of this study was limited to organizations that are using social media in Malaysia. Since some organizations are already using social media, it was possible to determine the impact of social media on the organizations' performance. The target organization for this study included organization from both manufacturing and services

industry. However this study did not distinguish between the target organizations in terms of size (small, medium, large) and the type of their ownership (eg. public, private etc.). This is because the numbers of organizations that are using social media are limited in Malaysia. This was determined through the web content analysis conducted in the first phase of the study

Apart from this, there has not been much research conducted on the organizational usage of social media in Malaysia (Shahizan et al., 2012). Moreover, for the selection of samples, there was no single source (sampling frame) which could provide the list of all the organizations that are using social media in Malaysia. The list of organizations was obtained only after conducting the web content analysis. The other issue is that since social media is a new technology and considered as a strategic tool (Gomez Vasquez & Soto Velez, 2011), most of the organizations were not willing to disclose the data relating to social media usage and its impact on their organizational performance.

The scope of the study is also limited to the investigation of only certain areas of organizational performance that can be improved through social media. The interview findings in the second phase of the study revealed that social media usage enhances certain areas of non-financial performance of the organizations such as cost reduction, customer service and information accessibility. Therefore only these factors were further analyzed in the third phase of the study.

Lastly, the respondents of the study were limited to Head of Marketing or Senior Manager of the social media team, as it was assumed that only these people have more knowledge about social media usage in their organizations, and it was assumed that all the respondents expressed their honest opinions.

## 1.5 Research Methodology

As mentioned earlier, the aim of this research is to examine the impact of the usage of social media among organizations in Malaysia. The research involved three phases of study which used web content analysis, in-depth interviews and survey. The first phase of the study used the web content analysis. The content analysis was mainly conducted on organizations' websites to identify whether or not the organization used social media, and subsequently on the organizations' social media page, to identify the level of social media usage.

In the second phase of the study, in-depth interviews were conducted with the Head of Marketing or Head of Social media team of the organizations using social media effectively. The main aim of the interview was to identify the various purpose of social media usage which is used as the measurement for social media usage construct in the quantitative part of the study. The interviews also helped to sort out the appropriate antecedents that influenced the successful usage of social media. Finally the various areas of organizational performance that can be improved by social media usage were also identified. Constant comparison method was used to identify the themes and categories from the interview data which led the way to the third phase of the study.

Based on the interview results and extensive review of literature, the research model for the study was identified and the survey method was used to validate the identified integrated model of the study. An online survey questionnaire was employed to collect data for the third phase of the research. Partial Least Square (PLS) was employed to test the model. Based on Chin (1998), the two-step procedure was used, namely the assessment of outer model and the assessment of inner model. Assessment of outer

model or measurement model consists of reliability and validity of construct which is based on composite reliability, indicator reliability, average variance extracted (AVE), discriminant validity, and factor loadings. Assessment of inner model or structural model is based on criteria such as significance of relationship, variance explanations of endogenous constructs, and effect sizes.

## 1.6 Organization of the Thesis

This research is presented in five chapters. The Chapter One provides overall information about the research; problem statements, research questions, objectives, and contribution of the study are discussed.

Chapter Two discusses social media in general, and the various social media tools that are used by individuals and organizations. Then the content analysis of 201 studies and the results of the content analysis are discussed. The results of the content analysis showed the various subject matters in which social media was studied, the different context (countries) of social media studies, the research methods used in social media studies, the various journals and the year in which the social media studies were published. The research perspective (individual or organizational), the type of papers (research paper, conceptual, literature review etc.) and different theories and frameworks used on social media studies are also discussed. Next, the various studies that investigated social media from organization perspective are discussed. Following that, the website evaluation models and IS adoption models that are commonly used in organizational research and its critics are elaborated.

Chapter Three discusses the research methodology used for the study. Firstly, the research model and the variables used in the study are explained in detail. Then, the research paradigm adopted for this study is discussed, followed by the research designs and research methods used in the study. The questionnaire designs, content validity, and pilot study results are also discussed. Then, the three phases of the study are elaborated in detail. Furthermore, the measurement of the variables and the data analysis techniques used in the study are discussed.

Chapter Four elaborates the data analysis results. Initially, web content analysis results are discussed followed by the explanation of interviews findings, identification of themes and categories. Finally, the results of the survey data are presented, in which descriptive statistics, followed by test of normality, common method bias, test of non-response bias, reliability of measures and exploratory factor analysis are discussed. Then, the results of Partial Least Square (PLS) on model assessment such as discriminant validity, convergent validity, confirmatory factor analysis, and the hypotheses testing are also reported.

Chapter Five provides the summary of the study and also presents discussions of the findings. The findings are compared with the results of similar previous studies. Some of the limitations of the research are also discussed. Both, theoretical and practical contributions are outlined based on the research. Finally, a number of additional areas of study that may be valuable to be built based on this research are recommended.

# CHAPTER 2 LITERATURE REVIEW

## 2. 0 Introduction

This chapter reviews previous studies from literature relevant to the research area. The first section provides general overview about social media; the different social media tools available and the social media usage in organizations are discussed. The next section reviews the previous studies on social media by performing content analysis of 201 articles published in the social media topic. The content analysis results revealed the year in which most of the studies were published on this topic; journals that published papers related to social media, the various subjects studied under social media, and the most widely used theoretical frameworks and theories on these papers. Further, the methodologies used in these studies, the data analysis techniques used, and the origin of the studies are discussed.

More in-depth discussions on previous studies that investigated the organizational usage of social media are presented next. Then, various website evaluation models and the one that is used for this study is elaborated, followed by the review of various theories and frameworks. The final section presents the content analysis of the factors that influence technology usage in organizations, and the various technological, organizational, and environmental factors that were used in the study are explained in detail.

## 2.1 Overview of Social Media

Terms like social media, social networks, blogs and online communities all refer to a philosophy known as "Web 2.0", a term coined several years ago to indicate a shift in

user preference and activity towards online self-publishing and content collaboration (Leader-Chivée & Cowan, 2008). Social media, or Web 2.0, is a collective of new Internet applications that emphasize participation, connectivity, user-generation, information sharing, and collaboration. These technologies have shifted the emphasis of Internet services from being consumption-based towards becoming interactive and collaborative, creating new opportunities for interaction between organizations and publics (Henderson & Bowley, 2010) .

With the advent of Web 2.0 technologies, the younger generations of Internet users are rewriting the rules of social interaction, and the way business is conducted. By utilizing electronic media and Web 2.0 tools such as Wiki's, blogs, tagging and social book-marking, new and ingenious methods of social interaction across geographic borders and industry silos are being created (Fu, Liu, & Wang, 2007; IBM, 2007; Zyl, 2009).

Since entering the vernacular, social media has been perceived with both fear and reverence (Ellison, 2007; Richardson & Hessey, 2009). Irrespective of this, social media is among one of the most significant business developments of the twenty-first century, adding another dimension to the way people communicate all over the world. Typically, a social networking service focuses on building online communities of people who share interests and/or activities, or who are interested in exploring the interests and activities of others (Bennett, Owers, Pitt, & Tucker, 2010).

Social media covers a wide variety of web-based technologies that enable users to contribute to, as well as consume information. Social media content comprises text, pictures, videos, and networks. Text was the first social media, which was initially primarily in the form of blogs (short for 'web logs'). Berthon et al. (2012) described the

blogs, micro-blogs, picture sharing websites and social networking sites as the examples of important and common social media technologies. Blogs are websites owned and written by individuals who regularly post comments, write articles, and share their experiences that may include text, graphics, and videos. Blogs also contain links to other blogs and web pages and are usually presented in reverse chronological order. While the micro-blogs (eg. Twitter) are social networking services that have gained much popularity in recent years, these services enable users to send and read very short messages, which are usually restricted by the number of characters in the message.

Next in the list are the picture-sharing websites (eg. Flickr) which allow users to store and share images, whereas video-sharing websites (eg. YouTube) permit users to upload and share videos. On the other hand, social networking sites (eg. Facebook) are services in which users can find and add friends and contacts, send messages to friends, and update personal profiles. However, social networks are quite different compared to other social media technologies as it is more towards a collective rather than an individual. Social networks leverage the power of relationships and the collective wisdom of many (Berthon et al., 2012).

Among the various social media tools available, the three most popular tools are discussed here. Smith, Fisher, and Yongjian (2012) in their paper named Facebook, Twitter, and YouTube as the most widely used social media tools, and they further commented on the three as follows. Facebook is a social networking site that was founded in 2004. Facebook users can create profiles featuring personal information, interests, photos, and the like, and can ‘friend’ other site users. Users of Facebook can perform wide range of activities such as writing on friends’ walls, commenting on links, participating in forum discussions, and “liking” brands. Facebook allows people to build

or maintain social capital, communicate with others, keep up with other peoples' lives, and discover rumors and gossip.

Similarly, Twitter is another popular micro-blogging social media tool which was founded in 2006. It allowed people to publish (tweet), reply to, and forward posts that cannot exceed 140-characters in length. One can post hyperlink to news stories, blogs, pictures, etc., show up in the stream of those following the poster; most posts are also publically available. Twitter is mainly used to share information, news, opinions, complaints, or details about daily activities.

YouTube is another social media tool that was founded in 2005 which is basically a video sharing site. It allows users to post, view, comment on and link to videos on the site. Users can also set up personal profiles that display who they subscribe to, recent activities, friends, comments and favorite videos. In most cases, professionally produced videos are the ones that are mostly viewed by the people (Kruitbosch & Nack, 2008), but user-generated videos are those that receive more comments (Burgess & Green, 2009).

Apart from these tools mentioned, there are many other social media tools used by people. These social media tools can be established anywhere with an Internet connection, and it should be considered by marketers, advertisers, and content creators as a basic part of their communications because social media affects all aspects of the Internet and transforms the role of the Internet in people's lives (Akar & Topcu, 2011; UnicersalMcCann, 2008). Organizations should consider using social media mainly because of the changing trends among consumers.

According to Mangold and Faulds (2009), marketing managers should recognize the power and critical nature of the discussions that is being carried on by consumers via social media. They illustrated the nature of the current trend as that the Internet has become a mass media vehicle for consumer-sponsored communications. It now represents the number one source of media for consumers at work and the number two source of media at home (Rashtcy, Kessler, Bieber, Shindler, & Tzeng, 2007).

In recent years, it can be seen that consumers are turning away from the traditional sources of advertising such as radio, television, magazines, and newspapers. More control over media consumption is consistently demanded by consumers as such they demand for immediate access to information at their own convenience (Rashtcy et al., 2007; Vollmer & Precourt, 2008). In order to conduct information searches and to make their purchasing decisions, consumers are now turning more frequently to various types of social media (Lempert, 2006; Rashtcy et al., 2007). Furthermore, compared to corporate-sponsored communications transmitted via the traditional elements of the promotion mix, social media is perceived by the consumers as a more trustworthy source of information regarding products and services (Foux, 2006).

As the trend is changing more favorably towards social media among consumers, social media also provides various advantages to organizations. Social media has the ability to expand social contacts, accelerate business processes, and improve customer relations. It helps in cost-effective recruitment of high-caliber staff, and the improvement of morale, motivation, and job satisfaction among staff. Social media can assist organizations to create an online resource containing the accumulated wisdom of the organization, by allowing knowledge to be codified, searched, and shared (Cairncross, 2001; IBM, 2007). By decreasing the use of e-mails and other disruptive

communication methods, the use of asynchronous communication methods, such as blogs and wikis can increase productivity and work flow efficiency (Zyl, 2009).

One of the areas where social media will have the biggest impact on organizations is in the continual communication with consumers and the public. This open communication can have an impact on the organizations' perceived image or brand and their image of being innovative and market leaders. Social media also helps the organizations to improve their relationship with customers by allowing customers' direct access to information for which they would previously have had to telephone, or e-mail. This eliminates frustration caused by delays (Brown & Duguid, 2000; Cairncross, 2001; Zyl, 2009).

As stated earlier, businesses are beginning to use social media as a tool to develop and maintain durable relationships with customers, a tool for word-of-mouth (WOM) marketing, the intentional influence of customer-to-customer communications (Kozinets, De Valck, Wojnicki, & Wilner, 2010), a tool for community-based customer support (Greenberg, 2010), and a tool for innovation co-creation (Sawhney, Verona, & Prandelli, 2005). More and more often, businesses are investing in resources that integrate social data into their existing customer databases as part of customer relationship management (CRM) upgrades (Trainor, 2012; VanBoskirk, Overby, & Takvorian, 2011).

Moreover, social media is now a developing phenomenon in marketing. Marketers are beginning to understand the use of social media as a component in their marketing strategies and campaigns to reach out to customers. Social media can be used to facilitate various areas of marketing such as promotions, marketing intelligence,

sentiment research, public relations, marketing communications, product and customer management (Akar & Topcu, 2011; Tanuri, 2010).

Marketing with social media is making a significant impact on the marketing strategies of organizations. Some of the organizations are using social media for marketing more extensively compared to the traditional marketing methods. As it can be seen, social media is gradually rising, expanding, and taking the place of older methods in some organizations. This is mainly because traditional marketing activities are directed from organization to customer. Traditional marketing is one-way, push-based, and interrupt-driven (Akar & Topcu, 2011). It is like pushing a message about the products or services to the clients without getting prior permission or request from the customers. On the contrary, social media marketing is comprised of new features, such as the multidirectional dialogs which attract more organizations to use it. This type of multidirectional engagement was impossible before Web 2.0.

As mentioned earlier, in social media marketing communication takes place from multiple directions where brands talk to the customers, customers talk to the brands, and most importantly customers talk to each other. Similarly, social media marketing is participatory. The main concept of social media marketing is user participation, which is the basic criterion that makes it social. Even though some content and conversations are generated by the brand, most of the content is created by the user. Therefore, social media marketing is user generated rather than brand generated which encourages the users to talk and not just to listen (Akar & Topcu, 2011; Awareness, 2008).

Another important feature of social media is that innovation can be encouraged by monitoring customer communications, feedback and opinions (Matuszak, 2007;

Tapscott & Williams, 2006). Therefore, growing importance and benefits of social media has attracted many researchers to consider social media as a unique research topic (Hu & Kettinger, 2008; Laroche et al., 2012). In the following section, the content analysis of the previous studies on social media is presented.

## 2.2 Research on Social Media

Social media is a growing phenomenon and perhaps the latest user-led innovation to emerge from the World Wide Web and Web 2.0 technologies. However, research on the organizational use of social media is new and few (Akar & Topcu, 2011). In order to identify the type, subject, and other aspects of social media research, a content analysis was conducted. For content analysis, the articles published in journals on the area of social media were reviewed. In order to identify the relevant articles, an extensive search on many databases was performed.

The search for articles was conducted on databases such as ABI/INFORM @ Proquest, Emerald Intelligence, Science Direct, Business Source Premier (BSP) @ EBSCOhost, Scopus, SpringerLink, ACM (Association for Computing Machinery) Digital Library and AIS e-library. Keywords such as Social Media, Social Networking, Web 2.0, Facebook and Twitter were used to search for relevant articles. In order to get greatest coverage of relevant articles, several combinations of the keywords were used. For instance :-

- Social Media (AND) Web 2.0
- Social Media (AND) Facebook
- Social Media (AND) Organizations
- Social Media (AND) Organization Performance

- Social Networking (AND) Organization Performance
- Social Media (AND) Impact (AND) Organizations
- Facebook (AND) Organizations
- Twitter (AND) Organizations

Based on the above keywords the search processes were carried out on the databases. Nearly 393 articles were downloaded based on their title. Among those, 92 articles were excluded from the analysis, as they were not academic research articles. Table 2.1 shows the various areas of the articles that were used for analysis :-

**Table 2.1: Content Analysis Area**

| **No.** | **Area** |
|---|---|
| 1. | Article Title |
| 2. | Year |
| 3. | Journal |
| 4. | Subject |
| 5. | Theory or Framework used in the Study |
| 6 | Methodology |
| 7. | Data Analysis technique used |
| 8. | Origin of the Study |

The result of the content analysis showed that among 201 articles analysed, 27% of the articles were published during the year 2010, followed by 26% during the year 2012, 22% of the articles during 2009, 16% of the articles in the year 2011, followed by 6% in 2008, two articles from the year 2006, one article from 2007, and two articles from 2013 (as of February 28th, 2013). Figure 2.1 shows the number of articles published in each year from 2006 to 2013.

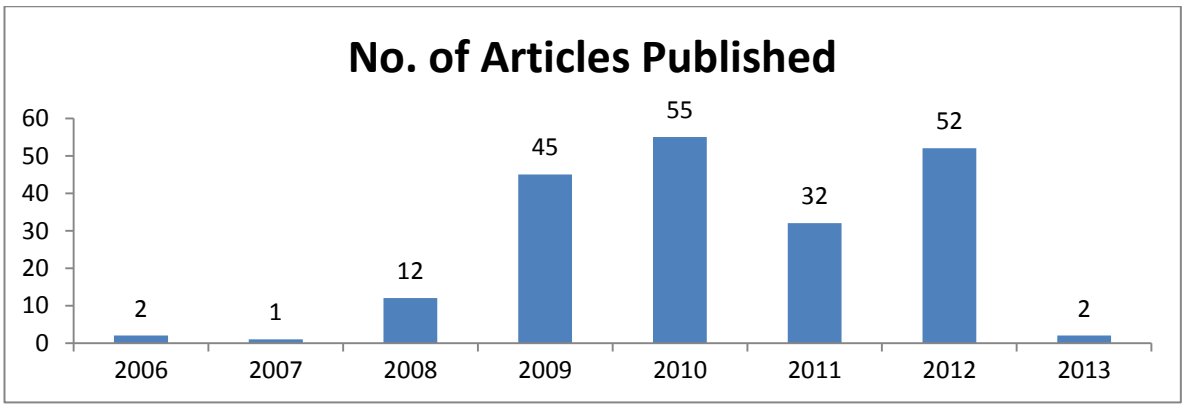


**Figure 2.1: Years and Number of Articles Published**

The articles analyzed were published in various top tier journals as of February 28th, 2013. Table 2.2 shows the list of journals and the number of articles published in each journal.

**Table 2.2: Journals and Articles Published**

| No. | Journal | No. of articles |
|---|---|---|
| 1. | Computers in Human Behaviour | 28 |
| 2. | Public Relations Review | 21 |
| 3. | Journal of Computer-Mediated Communications | 7 |
| 4. | AIS-THCI | 6 |
| 5. | CAIS | 6 |
| 6. | Business Horizon | 5 |
| 7. | Journal of Adolescent Health | 5 |
| 8. | Internet & Higher Education | 4 |
| 9. | Journal of Interactive Advertising | 4 |
| 10. | MISQ/The Learning Organization/Business Information System Engineering/Government Information Quarterly/Computers & Education/ International Journal of Hospitality Management | 3 each |
| 11. | Information & Management/Business Communication Quarterly/Electronic commerce Research and Application/Information Science/International Journal of Human-Computer studies/International Journal of Information Management/Journal of Consumer Behaviour | 2 each |
| 12 | Other Journals | 1 each |

Most of the social media studies are published in journals such as Computers in Human Behaviour (28) and Public Relations Review (21). Journals like AIS-THCI, MISQ,

Information & Management etc., have also published papers on Social media. Apart from the journals mentioned above, some of the other journals had published one article each in social media topic.

Referring to the origin of study, results showed that United States ranked number 1 with 97 studies (48%). Studies that involve multiple countries (data collected from two or more countries) ranked number 2 with 21 studies and UK ranked number 3 with 10 studies. Countries such as Canada, Australia, Korea, and Malaysia ranked fourth with 5 studies each. India, Israel, Japan, and Taiwan ranked fifth with 4 studies each, followed by Finland, Germany and New Zealand in sixth place with 3 studies each. Countries such as China, Hong Kong, Ireland, Netherlands, Romania, Singapore, South Africa, Spain, and Turkey ranked seventh with 2 studies each, and finally countries such as Canary Island, Egypt, France, Gaza, Greece, Jamaica, Mexico, Northern Cyprus and Switzerland ranked eighth with 1 study each. Figure 2.2 shows the list of countries and the number of articles published.

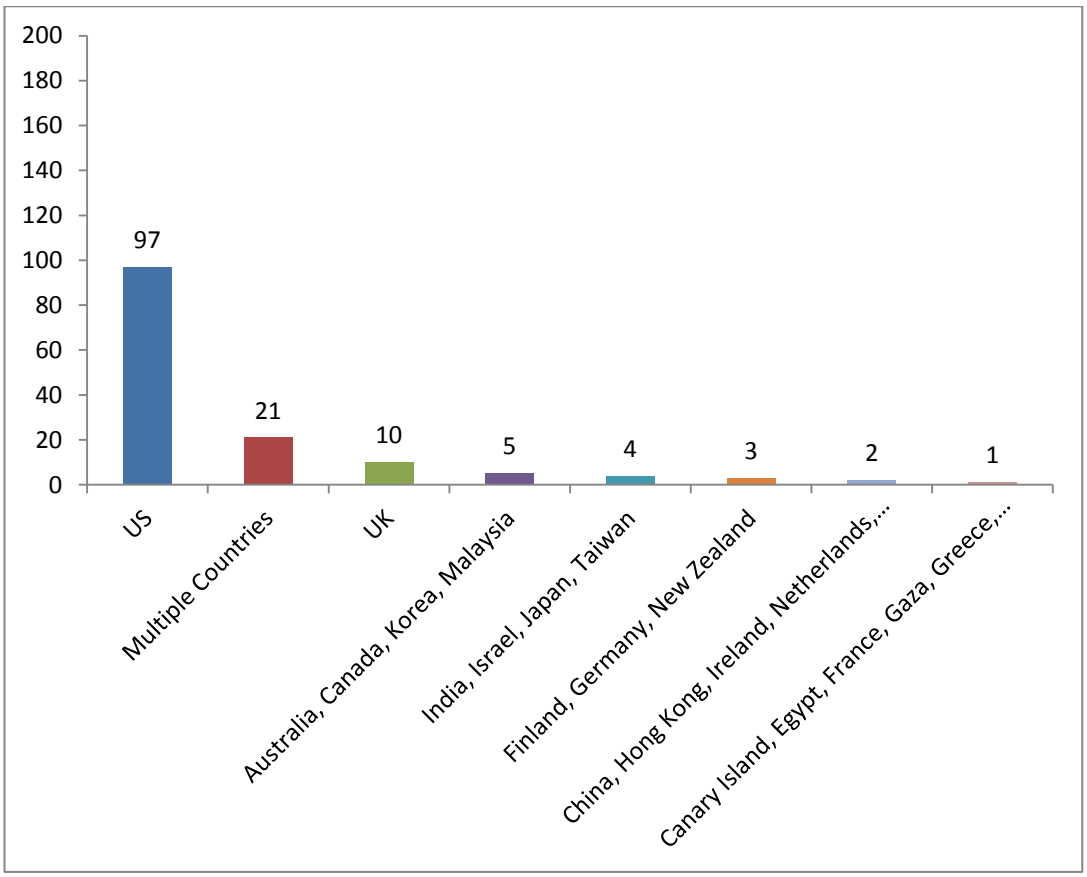


**Figure 2.2: Number of Studies by Countries**

Next, the different types of research papers (methods and techniques used) were analysed. It was found that authors used various methods such as survey, interviews, experiments, action research and netnography. And various techniques like web Content analysis and content analysis were used. Also some general review, literature review and conceptual papers were found. The Table 2.3 shows the number of papers published using the various research methods & techniques.

**Table 2.3: Research Type**

| Methods/Techniques | No. of Articles |
|---|---|
| Survey | 69 |
| Mixed method | 31 |
| Web Content Analysis | 27 |
| Interviews | 19 |
| General Review | 19 |
| Experiment | 13 |
| Literature Review | 9 |
| Conceptual paper | 7 |
| Content Analysis | 3 |
| Action Research | 2 |
| Netnography | 2 |
| **Total** | **201** |

Table 2.3 shows that most of the previous research on social media had used the survey methods. Among the survey studies, about 25 studies used advanced data analysis techniques such as SEM and PLS, in which 17 studies used the structural equation modelling technique and 8 studies used the PLS approach.

### 2.2.1 Subjects Studied in the Field of Social Media

Content Analysis results showed that social media was studied from four different perspectives namely Individual, Organizational, Social issues (Political and Non-Political), and Security and Privacy. Table 2.4 shows that 49% of the studies were conducted on the individual usage of social media, followed by 31% on organizational usage. 9% of studies were on social issues, 5% of studies were on security issues regarding social media, and the remaining 5% on other areas such as social media site development, general discussion about social media, and comparison between traditional media and social media.

**Table 2.4: Research Perspective**

| IS Research Perspective | No. of studies | Percentage |
|---|---|---|
| Usage (Individual) | 99 | 49% |
| Usage (Organizational) | 62 | 31% |
| Social issues | 19 | 9% |
| Security & Privacy | 11 | 5% |
| Others | 10 | 5% |
| **Total** | **210** | **100%** |

More in-depth analysis on individual usage studies revealed that among the 99 individual usage studies, 53 studies investigated general individual usage of social media, 29 studies investigated the attitude, intention, and motivation to use social media, 6 studies were based on social media usage for information search, 6 studies investigated the personality of social media users, and 5 studies on social media usage for knowledge sharing by individuals. Table 2.5 shows the subjects investigated under individual usage perspective.

**Table 2.5: Individual Perspective Studies**

| Subject | No. of studies |
|---|---|
| General usage | 53 |
| Adoption | 29 |
| Information search | 6 |
| Personality of individual users | 6 |
| Knowledge sharing via social media | 5 |
| **Total** | **99** |

Further analysis on the organizational studies showed that among the 62 organizational studies, nearly 41 studies were research papers, 10 studies were general review papers; 7 were literature review papers and 4 conceptual papers. Furthermore, among the 41 research papers under organizational studies, 16 studies used web content analysis technique, 10 studies used survey method, while 6 papers used interviews and 5 studies

used mixed methods. Table 2.6 shows the paper type, methods and techniques used in organizational studies.

**Table 2.6: Paper Type, Methods and Techniques used in Organizational Studies**

| **Methods/Techniques/Paper Type** | **No. of Studies** |
|---|---|
| Web Content Analysis(Data analysis technique) | 16 |
| General Review(Paper Type) | 10 |
| Survey(Research Method) | 11 |
| Literature Review(Paper Type) | 7 |
| Interviews(Research Method) | 5 |
| Mixed Method(Research Method) | 5 |
| Conceptual Paper(Paper Type) | 4 |
| Experiment(Research Method) | 2 |
| Netnography(Research Method) | 1 |
| Action Research(Research Method) | 1 |
| **Total** | **62** |

Further analysis on the 62 organizational studies showed that 44 studies investigated on general organizational usage of social media, 10 studies investigated the social media usage for education purpose, 3 studies investigated social media usage for non-profit organizations, while 3 studies were on hospitality organizations and 1 study was on social media usage by a health organization. Table 2.7 lists the subjects investigated under organizational usage perspective.

**Table 2.7: Organizational Perspective Studies**

| **Subject** | **No. of studies** |
|---|---|
| General organizations | 44 |
| Education | 10 |
| Hospitality | 3 |
| Non-Profit | 3 |
| Health | 1 |
| News media | 1 |
| **Total** | **62** |

Furthermore, general organizational studies were conducted on various areas such as general usage, social media usage for marketing, branding, recruitment, public relations, social media usage by employees, social media spending and impact. Table 2.8 shows the number of studies on each area.

**Table 2.8: General Organizational Studies**

| **Areas of general organizational studies** | **No. of studies** |
|---|---|
| Marketing | 11 |
| Branding & Word-of-mouth | 9 |
| General organizational usage | 9 |
| Spending & Impact | 6 |
| Public relations & Customer relations | 4 |
| Recruitment | 3 |
| Employees | 2 |
| **Total** | **44** |

### 2.2.2 Theories and Frameworks Used in the Studies

Among the 201 studies analyzed, only 88 studies based their research on some theory or theoretical framework, and among those, the most frequently used theories and frameworks are shown below in Table 2.9. The results show that the Technology Acceptance model was used in 13 studies, followed by the Uses and Gratification theory (8 studies).

**Table 2.9: Theories Used in Social Media Studies**

| **Theory/Framework** | **No. of studies** |
|---|---|
| Technology Acceptance model | 13 |
| Uses and Gratification Theory | 8 |
| Dialogic theory of web communication and relationship strategies | 9 |
| Five personality traits | 7 |
| Media Richness Theory | 2 |
| Social Capital Theory | 2 |

Other theories such as Resource based view theory, Play theory, Categorization theory, UTAUT model, Social Learning theory, Social Cognitive theory and few more theories were also used but only one or two studies were based on each of these theories.

Therefore, the results of the content analysis showed that most of the social media studies were conducted in developed countries and there is a need to conduct more studies in developing countries like Malaysia. Moreover, theory-based studies are very limited, as most of the organizational studies were conducted mainly to investigate social media usage without proper theory base, and the impact of social media usage on organizational performance studies are also very little. Furthermore, organizational studies mostly used website content analysis technique. Methods like interviews and mixed methods are much less. Therefore, with the aim to fill up the above gaps, the current study investigates the impact of social media use among Malaysian organizations by integrating various theories and using mixed methods.

## 2.3 Social Media Usage in Organization

Some of the social media studies on organizational perspective are discussed in this section. Graham, Faix, and Hartman (2009) conducted a survey to determine the usage of Facebook in libraries to connect with their students. The results showed that although the use of Facebook began for the express purpose of engaging students, the technology allowed professional relationships to develop as well.

Social media is also considered an important tool among organizations for the recruitment of employees. Kluemper and Rosen (2009) conducted a study based on HR professionals' evaluation of social networking information to hire applicants. Using

Judge Ratings, the study examined the feasibility of using applicant personal information currently available on social networking sites to improve employment selection decisions based on the big-five personality traits, intelligence, and performance. Based solely on viewing social networking profiles, judges are consistent in their ratings across subjects and typically able to accurately distinguish high from low performers. In addition, raters who are more intelligent and emotionally stable outperformed their counterparts.

Social media play a vital role for improving public relations. Avidar (2009) examined the Israeli public relations practitioners' use of social media elements and found that the Israeli practitioners are willing to use and gain experience with social media elements although this usage is still in its initial stage. Curtis et al. (2010), using the Unified Theory of Acceptance and Use of Technology (UTAUT), identified the use of social media for non-profit organizations. The results of this study indicated that social media tools are becoming beneficial methods of communication for public relations practitioners in the non-profit sector. Organizations with defined public relations departments are more likely to adopt social media technologies and use them to achieve their organizational goals. In addition, public relations practitioners are more likely to use social media tools if they find them credible.

More studies like Steyn, Salehi-Sangari, Pitt, Parent, and Berthon (2010), using the Technology Acceptance Model, examined the factors that influence bloggers to use Social Media Release (SMRs) and found that bloggers' perceptions of the effectiveness of SMRs are positively and significantly related to their use of SMR elements, while at the same time, their perceptions of the current use of SMRs by organizations are also positively and significantly related to their use of SMR elements. In addition, a

blogger's current use of SMRs or elements thereof significantly influenced their intended future use of the technology.

On the other hand, Akar & Topcu (2011) investigated the factors affecting consumers' attitudes towards marketing with social media. One of the important results of the study is that consumers' use of social media, their knowledge of social media, their following of social media, and their fears about marketing with social media, all affect their attitudes toward marketing with social media.

On the employees' side, Koo, Wati, and Jung (2011), by applying Media Richness theory and social theories, investigated how social communication technologies (SCTs) can be used by an employee to fit his/her task characteristics. Additionally, it also examined how the employee's social relationships moderated media usage in the current job environment and how this usage influenced the task performance. The results showed task characteristics were related to media usage, whereas social factors (social influence and social affinity) moderated the degree of the relationships. Moreover, the usage of social technologies results in positive task performance.

On the other hand, social media can be used to improve brand image. In 2011, more than 50% of social media users follow brands on social media (Belleghem et al., 2011; Vries et al., 2012). Considering the importance of social media on brand value, some studies have been conducted to investigate the context of branding in social media field. Okazaki and Yagüe (2012) examined the effects of an advergame on perceived brand value in a context of mobile social networking sites. It was found that brand-game fit had a positive effect on perceived brand value and electronic word-of-mouth (eWOM) intention; similarly SNS engagement has a positive effect on eWOM intention.

Furthermore, Zhang, Li, Ge, and Yen (2012) developed and tested the new acceptance model TAM_CCM. The TAM_CCM model was strongly supported in the study. System characteristics (information process support), social influence (subjective norm and rules on media use), and user experience significantly influenced user acceptance of computer-based communication media.

Some authors have also examined social media using qualitative approaches. For instance, Tikkanen, Hietanen, Henttonen, and Rokka (2009) qualitatively analyzed the key factors facilitating the growth and success of marketing in virtual worlds. They found that telepresence, flow, virtual experience and consumer learning as important underlying elements of virtual worlds and virtual world marketing. They also suggest that social networking can be especially used for connecting with customers, contributing to customer learning and getting customer input.

Whereas Harris and Rae (2009), using a case study approach, investigated the use of new technologies such as Web 2.0 by entrepreneurial businesses in West London and found that social networks will play a key role in the future of marketing; externally they can replace customer annoyance with engagement and internally they help to transform the traditional focus on control with an open and collaborative approach that is more conducive to succeed in the modern business environment. Authors like Phillips, Thilmany, and Sullins (2010) examined the effectiveness of social marketing for consumer-oriented agribusinesses using the case study approach and found that social networking may be beneficial, but might be most effective in a multi-modal marketing strategy for small agribusiness producers and direct marketers.

On the other hand, Arnold and Paulus (2010) used a case study to investigate the perspectives from the students, the instructor, and an outside observer to explore the intended and unintended outcomes of Ning use. The case study revealed that the site effectively served as an information repository. The blogs and discussion forums promoted reflection and review of each other's work.

Meanwhile studies were also conducted to compare the use of different social networking sites. For example, Enders, Hungenberg, Denker, and Mauch (2008) followed a comparative case approach of two major German social networking sites, StayFriends and XING. In order to answer the question of how social networking sites create value for their users and how they can capture it. The results showed social networking sites can generate revenues through advertising, subscription, and transaction models. In addition, it was also identified that the number of users, their willingness to pay, and their trust in peers and the platform, as the key value drivers.

Furthermore, Estanyol (2012) conducted ten in-depth interviews held with senior managers of Public Relations (PR) consultancies operating in Spain to identify current tendencies in a fast-growing sector. The preliminary results indicated that Spanish PR practitioners consider the economic crisis and Web 2.0 context as a huge opportunity in four ways; (1) because they make organizations aware of the strategic value of PR (and the importance of looking after their online and offline reputation); (2) because advertising budget cuts have been partly allocated PR as better value for money; (3) because PR agencies that offer crisis communication specialty have seen an increase in demand for their services; and (4) because Web 2.0 is a natural environment for public relations, where new figures (such as the community manager) simply transfer the management of brand and company reputations to this new digital medium.

There were also some studies that used the qualitative method to study social media use among non-profit organizations. Henderson and Bowley (2010) examined the role of authenticity in social media through critical discourse analysis of semi-structured interviews with organizational spokespersons to examine the use of social media by non-profit organizations. The results showed that organizations attempted to re-position its identities to appear "authentic" to potential young stakeholders, and to use social media to build dialogues that would attract new recruits to the industry. The paper also discussed the challenges and opportunities experienced by non-profit organizations in these recruitment campaigns.

On the other hand, Hearn, Foth, and Gray (2009), using an action research approach, discussed the take-up and use of new media such as Web 2.0 technologies in organizations, and explained that Web 2.0 services can be employed to work in tandem with conventional communication tools such as phone, fax, and corporate intranets. Such a hybrid approach enables organizations to maintain and strengthen existing stakeholder relationships, and also reach out and build relationships with new stakeholders who were previously inaccessible or invisible.

Apart from qualitative and quantitative methods, few studies also used mixed methods in the social media context. Authors like Chu et al. (2011), using the qualitative and quantitative approach, analyzed the data from 30 medical related organizations and investigated whether these organizations found Web 2.0 beneficial. Results showed that knowledge and information sharing, and the provision of a better communication platform, were rated as the main purposes of using Web 2.0. Time constraints and low staff engagement were the most highly rated difficulties. Most participants found Web 2.0 to be beneficial to their organizations.

DiStaso and Bortree (2012), using multiple methods such as survey, interviews, and content analysis, investigated how social media can be used to improve transparency along with its benefits and challenges. It was found that the public relations professionals in this study feel strongly about the value of social media. The respondents reported that they were most likely to use social media to let people know what their organizations do, as well as to provide information that is useful for others to make informed decisions.

### 2.3.1 Malaysian Perspective

Some studies were conducted in Malaysia that examined the usage of social media for various purposes. The search for the articles on social media studies in Malaysian context indicated that the majority of studies investigated social media from the individual's perspective, with a few exceptions such as Ayu and Abrizah (2011), whom explored the use and application of Facebook among Malaysian academic libraries. While on the individual's perspective, Din and Haron (2012) examined the role of culture in knowledge sharing among Malaysian online social networking users.

Sin et al. (2012) investigated the factors that influence young Malaysian consumers' online purchase intentions in social media websites, while Kabilan, Ahmad, and Abidin (2010) investigated whether Facebook can be used as an online environment for learning of English in institutions of higher education. Table 2.10 shows some of the social media studies conducted in Malaysia. The lack of studies on social media from an organizational perspective is one of the motivations to conduct this research in Malaysia. Since this study uses mixed methods, which include web content analysis, the next section discusses various website evaluation models.

**Table 2.10 Social Media Studies in Malaysia**

| Reference | Subject | Perspective |
|---|---|---|
| Alam et al., 2011 | Attitudes of young adults towards online social networks and online dating sites usage. | Individuals (Students) |
| Ayu and Abrizah (2011) | Use and application of Facebook among Malaysian academic libraries | Organization |
| Din and Haron (2012) | Role of culture in knowledge sharing among Malaysian online social networking users. | Individuals (Social Network users) |
| Kabilan et al., 2010 | Facebook for learning of English in institutions of higher education. | Organization |
| Warren et al., 2014 | Facebook usage for civic engagement | Individuals (Activists) |
| Warren et al., 2014 | Facebook usage for civic engagement | Individuals (Citizens) |
| Hamidon et al., 2013 | Twitter usage for post-reading activities among Malaysian community college students. | Individuals (Interviews, different profession people) |
| Haque et al., 2013 | Facebook for creating online brand awareness. | Individuals (Frequent Internet users) |
| Harris et al., 2012 | Facebook for learning | Individual (Teachers, Focus groups) |
| Hashim et al., 2013 | Gender across Facebook spaces | Individual (Students) |
| Jamalzadeh et al., 2012 | Business values through online SNS | Organization (Owners/Managers) |
| Kahar et al., 2012 | Small business use of social media | Organization (business entrepreneurs) |
| Khong et al., 2013 | Trust in Social Media | Individual (Social media users) |
| Mat Noh et., 2013 | Facebook Usage for Teaching and learning | Organizations (Education) |
| Sarwar et al., 2013 | Buyers opinion of social networks as marketing tool | Individual |
| Sin et al., 2012 | Malaysian young consumers' online purchase intention through social media. | Individual (Students) |
| Tan et al., 2013 | Effectiveness of the interactive advertising in social media | Individual (Students) |
| Yusop & Sumari, 2013 | Youth use of social media | Individual |

## 2.4 Website Evaluation Models

Referring to the content analysis results which were discussed earlier, it showed that among the 62 organizational studies, nearly 16 studies used the Web Content analysis method, which mainly investigated the social media site usage. There are many models that are used to evaluate the level of websites usage including social media sites. The following paragraphs highlight the more commonly used ones.

Griffiths (2000), proposed a model to evaluate the website usage based on five criteria : brochureware (corporate publicity and structures, news updates, copies of corporate documents, and public relations), interaction (downloading of forms, giving feedback to the website, and the searching of information), advanced interaction (return of the forms online, carrying out transactions through e-mails, and advanced searching of information), transaction (interaction with databases, transactions conducted and tracking the state of an order), and advanced transaction (online accounts that are available and updating of information).

Teo and Pian (2003) proposed a web adoption model in terms of levels of characteristics, based on a company's objectives in using the Internet. Level 0 is when there is no website or just an e-mail account while at Level 1 the company wants to occupy a web address or simply establish an initial online presence. At Level 2 the company is prospecting, delivering actual information about products. Level 3 entails business integration, online links to clients and suppliers, and Level 4 is business transformation. The instrument was applied to 159 organizations in Singapore and the relationships between adoption levels and organization size or strategy were tested using one-way ANOVA (Schmidt, Cantallops, & dos Santos, 2008).

Zwass (1996, 2003) meanwhile categorized the level of usage in terms of sharing of business information, maintaining of business relationships, and conducting of business transactions by means of telecommunications networks for business purposes. Similarly, Nambisan and Wang (1999) suggested that there are three levels of Web adoption; information access (dissemination of information about products, services, and organizational policies, and channeling feedback), work collaboration (to facilitate real-time work collaboration and document flow), and core business transactions (directly integrate with core business processes or transactions).

While, Burgess and Cooper (1999) developed the Model of Internet Commerce Adoption, abbreviated as MICA, which consists of three layers such as Promotion, that concerns information about the company; Provision, which is associated with interactivity and Processing, a relation to online transactions. Similarly, Overby and Min (2001) proposed four categories to describe the functions of the Internet, namely information (to provide information about the organization, products, business image), interaction (to interact with the customers, suppliers, competitors, etc), transaction (exchange information, products, or services and arrange for distribution), and integration (flow of information between multiple parties for the establishment of relationships). Perhaps a more suitable framework to measure websites was used by authors such as Men and Tsai (2011), Waters et al. (2009), and McMillan, Hoy, Kim, and McMahan (2008). They studied the usage of the Social Network Sites (SNS) based on the organizations' disclosure or openness, information dissemination, and interactivity.

Disclosure or openness refers to the willingness of an organization to engage in direct and open conversations with publics. Complete description of the organization and its

history, mission, and goals; use hyperlinks to direct users to its web site; logos or other visual cues are used to provide intuitive identifications in their social media pages, featuring disclosure strategy (Waters et al., 2009). The next strategy is information dissemination which addresses the needs, concerns, and interests of publics while disseminating organizational information. Photos, videos, announcements, and publicized information about products, promotions, or companies should be posted by organizations (Men & Tsai, 2011).

Interactivity strategy enables organizations to create opportunities for the customers or publics to contact the organizations, make a suggestion to a friend or to share the content on one's own social media page, and allow publics to comment on organizational post and respond to their comments (McMillan et al., 2008; Men & Tsai, 2011). Therefore, for the first stage of the study, the abovementioned strategies were used to identify the level of social media usage among Malaysian organizations. Next, in order to guide the qualitative and quantitative phases of the study, review on various theories and frameworks were conducted and presented in the next section.

## 2.5 Technology Adoption in Organizations – Theories and Frameworks

Research on technology usage and adoption has a long tradition in the area of information technology (Davis, 1989; Zmud, 1979). According to Molla and Licker (2005) and Tan, Tyler, and Manica (2007), the literature on technology adoption by businesses suggests that most research are based on frameworks such as the Diffusion of Innovation (DOI) (Rogers, 1995; Zhu & Kraemer, 2005), Technology Acceptance Model (TAM) (Davis, 1989), Resource-based Theory (Barney, 1991; Zhu & Kraemer, 2005), Institutional Theory (Chatterjee, Grewal, & Sambamurthy, 2002; Scott, 1995)

and the Technology-Organization-Environment Model (TOE) (Kuan & Chau, 2001; Tornatzky & Fleischer, 1990; Zhu & Kraemer, 2005).

These models have differences in terms of their focus and are designed to examine different aspects of business technology adoption. Some models examined only the external environment of firms (Gibbs, Kraemer, & Dedrick, 2003; Hemple & Kwong, 2001; Kshetri & Dholakia, 2002), while some focused on technological aspects (Bajaj & Nidumolu, 1998; Claycomb, Iyer, & Germain, 2005; Igbaria, Zinatelli, Cragg, & Cavaye, 1997; Tornatzky & Klein, 1982). The next section provides detailed discussion on the above specified models.

### 2.5.1 The Diffusion of Innovation Theory

The diffusion of innovation theory (DOI), rooted in sociology (Venkatesh, Morris, Davis, & Davis, 2003), plays an important role in increasing adoption intention and actual adoption of a technology. The theory of diffusion has been used since the 1960s to study a variety of innovations ranging from agricultural tools to organizational innovations (Thakur, Hsu, & Fontenot, 2012; Tornatzky & Klein, 1982; Venkatesh et al., 2003). Innovation by definition includes change, either in the media we use or the means by which we engage a traditional process. Rogers (2003) defines "innovation as an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 2003, p. 12). The diffusion of innovation is the process of the innovation being introduced in a social system through varied communication channels over time (Rogers, 2003).

Zaltman, Duncan, and Holbek (1973) states that an organization will consider a technology to be innovative if the technology is perceived as new and relevant. If they consider the technology to be new and relevant (eg. it will enable the organization in the decision-making process), then innovators would be willing to experiment with the new technology either by purchasing it or by seeking additional information about new technological products present in the market. They would use those new and relevant technologies in enhancing the internal efficiency and effectiveness of the organization in coming up with innovative ideas and making a quick and fast decision in rolling out those innovative ideas within the organization (Thakur et al., 2012).

Rogers (1995) identified five attributes of innovation that are key influences on innovation adoption and diffusion. They are: relative advantage, compatibility, complexity, trialability and observability. Relative advantage is the extent to which people believe that the innovation is better than the traditional one. According to Rogers (1995), it does not matter if the innovation has objective advantages or not. Rather the important concept is how people see the innovation and if they perceive the innovation to be advantageous. The relative advantage can be measured in economic terms, social prestige, convenience, and satisfaction. The higher the perceived relative advantage of an innovation, the more rapid its rate of adoption will be.

Compatibility is another attribute of an innovation suggested by Rogers (1995). It is the extent to which people believe that the innovation is compatible with the traditional idea in terms of existing values, past experiences, and needs of potential adopters. An incompatible idea with the values and norms of a social system will not be adopted as rapidly as an innovation that is compatible. Complexity is the extent to which people find the innovation difficult to use and understand. As Rogers (1995) explained, some

innovations might be easier for people to understand and some are more difficult as it requires additional knowledge to understand it (Duan et al., 2010).

Trialability is the extent to which people believe that there are chances for the innovation to be experienced before deciding whether to adopt it or not. An innovation that is trialable represents less uncertainty to the individual who is considering it for adoption and the individual who can learn by doing. The factor of observability refers to the level of which ‘‘the results of the innovation are visible to others” (Rogers, 1995 p. 16). According to Rogers, the easier it is for people to visibly observe those results, then the more likely the adoption of the innovation would be. Such visibility stimulates peer discussion of a new idea, for example friends and neighbors of an adopter often request evaluation about the new innovation (Duan et al., 2010).

Diffusion of innovation theory also suffers from heavy criticisms. One of the criticisms of the theory is that it ignores the social context of IT adoption in organizations. It is also regarded as being too simplistic to address issues of social context in which the adoption and diffusion of IT take place. The limitation of this theory is the failure to understand the human environment and organizational context (Du Plooy, 1998). In order for IT adoption to be successful, there is a need for social and environmental perspectives to complement technical perspectives. IT adoption processes need to be based on social-technical adoption models instead of a technological linear phenomenon (Jokonya, Kroeze, & van der Poll, 2012; Weilbach & Byrne, 2010).

### 2.5.2 Technology Acceptance Model

Davis (1989) proposed the Technology Acceptance Model (TAM) in order to explain the determinants of computer acceptance and explaining user behavior across a broad range of end-user computing technologies and user populations. Although empirical research using TAM shows that results are not totally consistent, it is undoubtedly useful as a starting point to understand IS use (Zhang et al., 2012). TAM explains and predicts the systems used in its two constructs : Perceived Usefulness and Perceived Ease of Use which are influenced by external variables (Dulcic, Pavlic, & Silic, 2012).

For a long time, TAM has helped to examine the mediating role of perceived usefulness and perceived ease of use and their relationships between systems' characteristics (external variables) and the probability of system use (an indicator of system success). Venkatesh and Davis, in the year 2000, developed a model TAM2 where TAM was expanded to include subjective norms as a determinant of perceived usefulness (Venkatesh & Davis, 2000). Numerous studies have extended the basic framework of the TAM and examined external variables that affect the key constructs such as perceived ease of use, perceived usefulness, and usage intention. For example, Venkatesh and Agarwal (2006) suggested that users' computer self-efficacy affects perceived ease of use both before and after system use, while objective usability has an effect on perceived ease of use only after direct experience with the system. Social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, and perceived ease of use) were also found by Venkatesh and Davis (2000) to affect user acceptance of systems (Park, Roman, Lee, & Chung, 2009).

TAM has been used in many studies in order to investigate the acceptance of different technologies (Cases, 2010). The number of researches and academics that still use TAM proves its general acceptance as valid tool. It presents an attractive tool due to its ease of use and implementation. More than 700 authors quoted the original Davis' TAM (Chuttur, 2009), but it has been used with some minor changes or modifications in most of the studies (Dulcic et al., 2012).

Although TAM can be considered as a robust and parsimonious model, IS researchers note that TAM has weakness in its lack of explicit inclusion of external variables (Hossain & Silva, 2009; Lee et al., 2003). Moreover, TAM related models focus on building a generic model for explaining general technology acceptance. A generic model may not explain the process of adopting a specific system accurately (Lu, Yao & Yu, 2005).

The content analysis of 201 articles which was discussed previously in this study showed that TAM was used by 13 studies among the 88 articles that underpinned their research with some theory or theoretical framework. However only 2 studies used TAM to study the organizations' intentions to use social media, the remaining used it to study individual adoption.

### 2.5.3 Resource Based View Theory

Rooted in management strategy literature, the resource-based view (RBV) of firm posits that firms compete on the basis of "unique" corporate resources that are valuable, rare, difficult to imitate, and non-substitutable by other resources (Barney, 1991; Conner, 1991; Schulze, 1992). The heterogeneity of resources across firms explains their

comparative differences and competitive advantage in the marketplace (Barney, 1991; Menguc & Seigyoung, 2006; Wernerfelt, 1984).

The theory provides a valuable way for IS researchers to think about how information systems relate to firm strategy and performance. In particular, the theory provides a clear framework to evaluate the strategic value of information systems resources. It also provides guidance on how to differentiate among various types of information systems including the important distinction between information technology and information systems, and how to study their separate influences on performance (Santhanam & Hartono, 2003). Furthermore, the theory provides a basis for comparison between IS and non-IS resources, and thus can facilitate cross-functional research (Wade & Hulland, 2004).

Adopting a resource-based perspective, information systems researchers have examined and found that IT related resources serve as potential sources of competitive advantage. Santhanam & Hartono (2003) found that superior IT capability indeed exhibit superior current and sustained firm performance when compared to average industry performance. While Hulland, Wade, and Antia (2007) studied the firm's internal and external capabilities impact on their propensity to establish and succeed with online channel ventures. The results showed that direct effect of firms' information systems capabilities on online performance appears to be negative but the indirect effect (mediated by commitment) is positive. Furthermore, Li, Heck & Vervest (2009) investigated how mobile ticketing technologies can successfully enable revenue management. The results demonstrate that service providers that use more sophisticated mobile ticketing technologies are more likely to adopt advanced strategies to create value. Also, they are more likely to achieve higher performance gains.

RBV is also criticized on various aspects. RBV has been criticized as being "static" and therefore limited in its ability to explain how firms maintain competitive advantage in highly dynamic environments (Cavusgil, Seggie, & Talay, 2007). Priem and Butler (2001) noted that most work examining the RBV is theoretical. It is criticized as tautological or self-verifying, because resources are defined in terms of their performance outcomes and thus not empirically testable (Priem & Butler, 2001). Levitas and Ndofor (2006) have questioned whether any RBV empirical study can claim construct validity (Rolland, Patterson, & Ward, 2009).

The content analysis on social media studies showed that one study had used the RBV theory as their base and presented a conceptual framework that extends a traditional view of CRM by incorporating social media technologies, and also suggested how these technologies can lead to greater firm performance.

### 2.5.4 Institutional Theory

Institutional theory posits that firms are affected by the economic, social, and political forces exerted by its relevant institutes (Scott, 2001) . Strong motivational force behind firm behavior is socially based and that it is embedded within institutions and interconnected organizational networks (Iacobucci & Hopkins, 1992; Meyer & Rowan, 1977; Scott, 1987). Extensive non-economic motivations such as culture, laws and regulations can shape the form and behavior of firms (Lin & Sheu, 2012).

Information systems researchers such as Robey and Boudreau (1999) identify institutional theory as an appropriate theoretical perspective to investigate IT-related organizational change. Likewise Orlikowski and Barley (2001) argue that researchers

should apply institutional theory to study the influence of regulative, normative, and cultural-cognitive processes and structures in the design and operation of IT-based systems (Butler, 2011). Prior studies have identified a number of different institutional forces. Lane (1997) shows that trade associations, legal regulations, and technical standards result in greater inter-firm trust and collaboration in Germany compared to Britain. Lewin, Long, and Carroll (1999) propose that the major forces in an organization's institutional environment include the role of government, rule of law, structure of the capital market, culture, and educational systems (Cai, Jun, & Yang, 2010).

According to DiMaggio and Powell (1983), institutional pressures emanate from the institutional environment and push firms to adopt shared notions and routines. Meyer and Rowan (1977) and DiMaggio and Powell (1983) propose that "isomorphism is the master bridging process in institutional environments; by incorporating institutional rules within their own structures, organizations become more homogeneous, more similar in structure, over time" (primarily within a particular institutional environment and context) (Scott, 1995, p. 209).

DiMaggio and Powell (1983) distinguished between three types of isomorphic pressures; coercive, mimetic, and normative, and suggested that coercive and normative pressures normally operate through interconnected relations while mimetic pressures act through structural equivalence (Teo, Wei, & Benbasat, 2003). These pressures come from constituents in the field, such as customers, suppliers, and competitors (Oliver, 1997). The firm's perception of these pressures affects its interpretation of the environment in general and innovation adoption intentions in particular (DiMaggio &

Powell, 1983; John, Cannon, & Pouder, 2001; Ketokivi & Schroeder, 2004; Liu, Ke, Wei, Gu, & Chen, 2010; Zsidisin, Melnyk, & Ragatz, 2005).

Institutional theory also has a number of significant theoretical and methodological problems. The most important of these problems is the static nature of institutional explanations. Also, there are some problems and difficulties in measuring institutional variables in other than simplistic and nominal categories (Peters, 2000).

### 2.5.5 Technology-Organization-Environment (TOE) Framework

Realizing the importance of technology adoption, Tornatzky and Fleischer (1990) developed the TOE model to evaluate technology adoption. The TOE framework is consistent with the Rogers' (1983) diffusion of innovation (DOI) theory as both focuses on internal and external characteristics of the organization, as well as technological characteristics in the study of drivers for new technology diffusion (Ghobakhloo, Arias-Aranda, & Benitez-Amado, 2011). The TOE framework identifies three aspects of a firm's characteristics namely technological, organizational and environmental. These characteristics influence the process of adopting, implementing and using technological innovations (DePietro, Wiarda, & Fleischer, 1990; Robertson, 2005; Tornatzky & Fleischer, 1990).

Swanson (1994) explained that there are three types of innovations; Type I innovations are technical innovations restricted to the IS functional tasks (such as relational databases, CASE); Type II innovations apply IS to support administrative tasks of the business (such as financial, accounting and payroll systems); and Type III innovations integrate IS with the core business where the whole business is potentially affected and

the innovation may have strategic relevance to the firm. The TOE framework was used for studying different types of innovations as mentioned above (Zhu & Kraemer, 2005).

Although the TOE framework has been successful in classifying adoption factors in their respective context, it has been criticized for failure to provide a model for describing the factors that influence IT adoption decision-making in organizations (Bose & Luo, 2011). The technology-organization-environment theory's main contribution has been to encourage researchers to broaden the context on IT adoption in organizations (Jokonya et al., 2012).

### 2.5.6 DeLone & McLean IS Success model

To understand IT performance impacts, (DeLone & McLean, 1992, 2003) proposed a theoretical framework linking perceptions of information, system, and service quality to impacts on the user's performance through the degree of system use and satisfaction with the system. The DeLone and McLean (1992, 2003) models are probably the most cited models in IS community. The DeLone and McLean 1992 model was successfully tested in many empirical studies (Agourram, 2009; Rai, Lang, & Welker, 2002). This model was empirically investigated to validate the multidimensional relationship between their proposed IS success categories. It has subsequently been adapted, refined, revisited and re-tested by numerous other researchers. For example Seddon and Kiew (1994) replaced use with usefulness and added user involvement success metric.

DeLone and McLean also updated their original model to incorporate new success metrics and contemporary research related to application, validation and challenges (Etezadi-Amoli & Farhoomand, 1996; Goodhue & Thompson, 1995; Guimaraes & Igbaria, 1997; Rai et al., 2002) to their original work. They also proposed four

categories of context (individual, group, organization and industry) along with a revised success dimension (System Quality, Information Quality, Service Quality, Usage and Net Benefits) (Azeemi, Lewis, & Tryfonas, 2013). The main advantage of the DeLone and McLean IS success model is that it is simple and effective, and can fully elaborate on the important concepts of a successful IS. Therefore, it is a significant theoretical and practical basis for future studies (DeLone & McLean, 1992, 2003, 2004).

However the DeLone and McLean IS success model also has some weaknesses. DeLone and McLean tried to combine a process and causal factors in their model (Seddon, 1997), whereby the variables in the model have broad definitions. For example, according to the model, technical success is measured by systems quality. This raises the question on technical success, of whether the success is limited to hardware or software. The problem in identification of dependent and independent variables associated with technical success. Furthermore, the selection of the benchmarks in determining the dependent and independent variables, whether the variables should be defined at the organizational or industry level. Another question is on the technology changes; whether the technological change will affect the variables and if so, what should be done? In addition, the success may vary based on user expectations.

Moreover, the DeLone and McLean model did not factor the adaptability level of the information systems in their model. With constant changes in end-user needs and mergers between organizations, the success of the information systems depends on its ability to adapt to changes. The information systems should support seamless integration thus reducing organizational cost, operational cost and time-to market (Duane, Richard, & Heinz, 1999; Wong, 2011).

Therefore the review on various theories and frameworks shows that no one theory is without criticism. In order to overcome this problem, authors have integrated theories to study technology usage. For instance, Nielsen (2002) using resource based view theory and innovation theory developed an integrated model to study the internet banking adoption and its impact on customer relationship performance. On the other hand, Nguyen (2007) used the Technology acceptance model along with the inclusion of strategic orientation factors such as market orientation and learning orientation to study the internet usage by internationalizing firms in transition markets.

Drawing upon the resource based view of the firm and the technology, organization and environment framework, Mishra, Konana, and Barua (2007) developed an integrative model that examined the antecedents and consequences of Internet use in organizations. Whereas Stone et al. (2007) developed a framework to study the information technology usage and its impact on individual and firm marketing performance by integrating the DeLone and McLean IS success model with the Technology acceptance model and also with the inclusion of factors such as organizational and end user traits.

Similarly for this study, based on the interview findings (Chapter 4) and factors that were identified from the content analysis which will be discussed in the next section (Section 2.6), various theories are integrated to develop the research model. The next section discusses the results of the content analysis on the factors that are frequently used in organizational IS adoption research.

## 2.6 Factors Influencing Technology Usage in Organizations

The purpose of this section is to achieve a deeper understanding of the various factors that influence technology usage in organizations. The content analysis approach was used to identify the factors that were used previously by other scholars. This technique was used as it helped in identifying, coding, and categorizing the main patterns in the data (Patton, 1990). In order to start the analysis, several databases and journals were searched for articles that investigated the factors influencing information systems adoption or usage. Various databases such as Scopus, Science Direct, Emerald Intelligence, Business Source Premier (BSP)@ EBSCOhost and ABI/INFORM @Proquest were searched for the retrieval of the articles.

Several combinations of keywords were used to achieve the greatest coverage of relevant articles. For instance :-

- Factors influencing technology usage (AND) technology adoption
- Critical Success Factor (AND) technology usage (AND) technology adoption
- Antecedents of technology usage (AND) technology adoption

Through the search process, 127 articles were selected and downloaded. After reading the articles, 55 were used for further analysis as only these articles investigated the technology usage from organizational perspective whereas the remaining 69 articles were based on individuals adoption/usage of the technology. After reading the 55 articles, the frequently used factors that influence technology usage were identified.

The results showed that among 55 studies, 30 (55%) studies investigated the influence of external pressure/institutional pressure on technology usage, followed by relative

advantage of using the technology which was examined by 24(44%) studies. Influence of compatibility on technology usage/adoption was investigated by 19(35%) studies. Around 17(31%) studies investigated the effect of top management support on technology adoption.

Similarly organization size is also a frequently used factor by 16 (29%) studies. Cost of adopting the technology was used by 12 (22%) studies. The influence of trust on technology usage was examined by 11 (20%) studies. Figure 2.3 illustrates the frequently used factors in technology adoption studies.

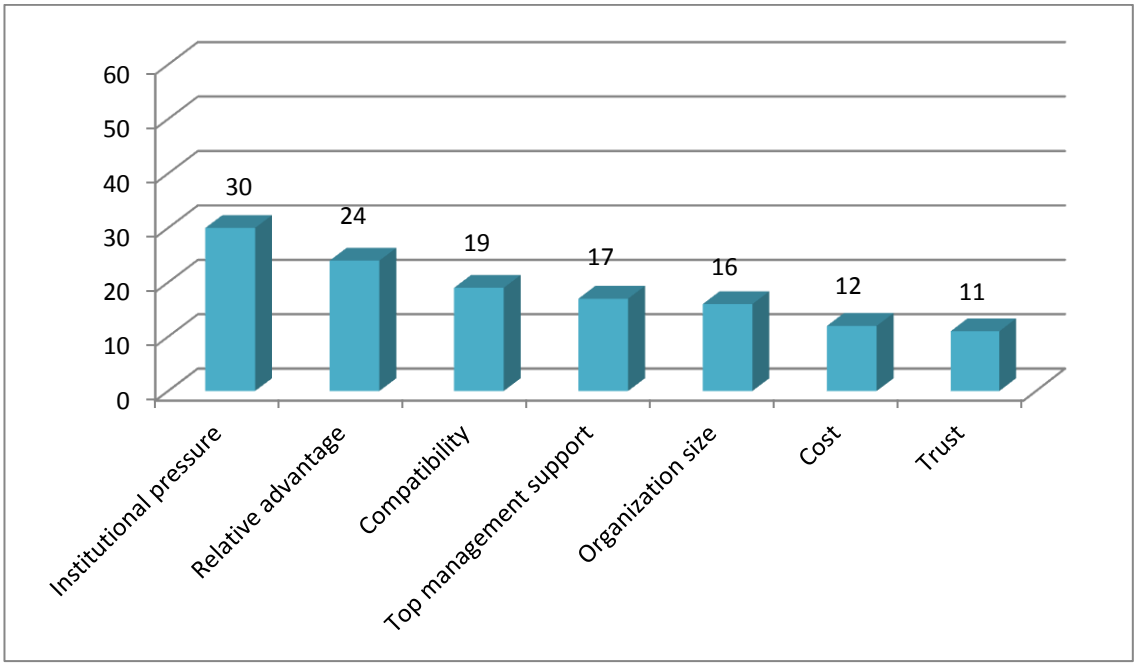


**Figure 2.3: Frequently Used Factors in Technology Adoption Studies**

The interview results which are discussed in chapter 4 shows that most of the abovementioned factors are supported by interview findings; however, factors such as interactivity and entrepreneurial orientation were also considered as important factors in

social media usage and thus included in the study based on the interview findings. The next paragraphs provide more discussions on the TOE framework used in this study

Past theoretical and empirical evidences revealed that TOE framework has been a popular foundational model in examining various IS issues. Empirical findings from the studies that used TOE framework confirmed that it is a valuable framework in which to understand the adoption of IT innovation (Oliveira & Martins, 2010). The TOE framework identifies three context groups: technological, organizational, and environmental. The technological context describes both existing technologies in use and also the new technologies that are relevant to the firm. Next, the organizational context refers to the characteristics of the organization in terms of its scope and size. The environmental context is the arena in which a firm conducts its business, referring to its industry, competitors and dealings with the government.

The TOE framework explains the adoption of innovation and as mentioned earlier a considerable number of empirical studies have focused on various IS domains using TOE framework. Thong (1999) explained IS adoption and the purpose of using TOE as their research framework. On the other hand, Pan and Jang (2008) explained enterprise resource planning (ERP) adoption.

Using TOE framework, researchers have identified various factors that influence technology adoption. For instance, Chau and Tam (1997) studied the adoption of open systems using the TOE framework and explained three factors that affect the adoption of open systems. These factors are the characteristics of the innovation, organizational technology, and external environment. Similarly a study by Kuan and Chau (2001) confirmed the utility of the TOE framework adopting complex IS innovations. The

framework was also used to explain e-business adoption (Zhu, Kraemer, & Xu, 2003; Zhu & Kraemer, 2005) and use (Lin & Lin, 2008; Zhu & Kraemer, 2005; Zhu, Kraemer, & Xu, 2006). They found that technological readiness, financial resources, global scope, and regulatory environment contribute strongly to e-business value. The various technological, organizational and environmental factors investigated in this study are discussed in the next section.

## 2.7 Technological context

Based on the Diffusion of Innovation theory, innovation attributes such as relative advantage and compatibility was added to the technological context. Variables such as social media interactivity, cost of adoption social media and trust on social media were also included.

### 2.7.1 Relative Advantage and Compatibility

Characteristics of innovation have been frequently studied in research on innovation adoption (Kuan & Chau, 2001). Based on the diffusion of innovation theory, Rogers (1983) suggested five attributes including relative advantage, compatibility, complexity, trialibility, and observability to influence adoption. Quite a number of innovation adoption studies have used Rogers' attributes as their theoretical basis (Kuan & Chau, 2001). Many studies, including the meta-analysis of 75 diffusion articles conducted by Tornatzky and Klein (1982), found that only relative advantage, compatibility, and complexity are consistently related to innovation adoption (Wang, Wang, & Yang, 2010). The interview results of this study showed that relative advantage and

compatibility are two among other factors that influence the social media usage in organizations and thus included for further investigation.

Rogers (1983) defined relative advantage as the degree to which a technological factor is perceived as providing greater benefit for firms. Many previous studies found that relative advantage is positively related to the adoption of IS innovations (eg. Grandon and Pearson (2004)). When an IS innovation is perceived to offer relative advantage over the firm's current practice, it is more likely to be adopted (Lee, Miranda, & Kim, 2004). Better managerial understanding of the relative advantage of an innovation increases the likelihood of the allocation of the managerial, financial, and technological resources necessary to use that innovation (Iacovou, Benbasat, & Dexter, 1995; Rogers, 2003). Many empirical studies also validated the positive perception that the benefits of an innovation provide an incentive for its use (Beatty, Shim, & Jones, 2001; Gibbs & Kraemer, 2004; Varun Grover & Teng, 1994; Hsu, Kraemer, & Dunkle, 2006; Iacovou et al., 1995; Kuan & Chau, 2001; Lin & Lin, 2008; Premkumar, Ramamurthy, & Nilakanta, 1994; Son, Narasimhan, & Riggins, 2005).

A rational adoption decision in an organization would involve evaluating the advantages of new technology. These communication technologies provide many benefits to the adopters in terms of reduced turn-around time, better customer service, reduced costs, and timely information availability for decision making. In a competitive market place, these benefits create significant motivations for adopting these technologies (Premkumar & Roberts, 1999). The usage of social media is expected to provide various benefits to organizations which include informational benefits such as ease of obtaining data input from media users like customers and competitors. It helps to form new business, enhance existing business, enhance selling merchandise, increase number of

connections, and improve customer relations and many more (Hensel & Deis, 2010). Thus, the relative advantages that social media usage are expected to provide, impacts the usage in organizations.

Another important factor that was suggested by Rogers (1983) was compatibility. Compatibility refers to the degree to which innovation fits with the potential adopter's existing values, previous practices and current needs (Rogers, 1983). Compatibility has been considered as an essential factor for innovation adoption (Cooper & Zmud, 1990; Wang et al., 2010). When technology is recognized as compatible with work application systems, firms are likely to consider the adoption of new technology. When technology is viewed as significantly incompatible, major adjustments in processes that involve considerable learning are required (Low, Chen, & Wu, 2011).

Tornatzky and Klein (1982) found compatibility to be an important determinant of adoption in their meta-analysis. The use of computers and modern communication technologies can bring significant changes to the work practices of businesses and resistance to change is a normal organizational reaction. It is important that the changes are compatible with the organizations' values and belief systems to ensure that the owner would adopt the new technologies (Prem kumar & Robert, 1999).

Many researchers have investigated the influence of relative advantage and compatibility on technology adoption, and found both positive and negative results. For instance, Wang et al. (2010), studied the influence of the factors such as compatibility and relative advantage on RFID (Radio frequency identification) adoption. They found that compatibility is a significant factor but relative advantage was not a significant factor for RFID adoption. In contrast to this, Ramdani, Kawalek, and Lorenzo (2009) in

their study, found relative advantage as a significant factor influencing SMEs' adoption of Enterprise systems, whereas compatibility found to be insignificant factor in the adoption of Enterprise systems.

Another study that investigated the adoption of cloud computing by (Low et al., 2011) found relative advantage to have a significant negative impact, and compatibility was found to have insignificant impact. But, the study found significant results for both relative advantage and compatibility factors on E-Marketing adoption (by Egyptian small tourism organizations). On the other hand, a study that investigated ecommerce adoption by Al-Qirim (2007) found that relative advantage influenced the adoption significantly whereas compatibility did not play any significant role in ecommerce adoption. However, the results of the qualitative analysis (refer Chapter 4) of this study found that relative advantage and compatibility plays a vital role in social media usage.

### 2.7.2 Cost

Cost is another factor that was frequently investigated by research scholars. The cost of adopting an innovation includes initial setup cost, fixed as well as variable operational cost. Complexity, compatibility, and cost have been found in many cases to be inhibitors to adoption (Bouchard, 1993). Normally in any technology adoption, cost of adopting a technology has been found to be a barrier for technology adoption (Thiesse, Staake, Schmitt, & Fleisch, 2011). According to Premkumar and Roberts (1999), firms would like the benefits from the adoption of a new innovation to be commensurate with the costs associated with the adoption of the innovation. Tornatzky and Klein (1982), states that technologies that are perceived to be low in cost are more likely to be adopted.

Studies have found cost-effectiveness to be an important variable in the adoption of new technologies (Chong & Chan, 2012; Premkumar & Roberts, 1994). For instance Chong and Chin (2012) found cost to be the most significant determinant of RFID adoption. Similarly, a study that investigated mobile CRM services by Sangle and Awasthi (2011) found cost to be a significant factor. In the context of Malaysia, Alam (2009) found that the cost of adoption have a significant effect upon internet adoption among SMEs in Malaysia.

In contrast to the previously mentioned studies, Tan et al. (2009) in his study on ICT adoption, found that cost had no significant effect with the ICT adoption. In terms of social media, it allowed firms to engage in a timely and direct end-consumer contact at relatively low cost, and higher levels of efficiency can be achieved when compared with traditional communication tools. This cost effective nature of social media attracts not only large multinational organizations, but also small and medium sized organizations, and even nonprofit and governmental agencies (Kaplan & Haenlein, 2010). Therefore, cost effectiveness of social media can be considered as one of the important factors that influence social media usage in organizations and thus included in this study for further investigation.

### 2.7.3 Trust

The results of content analysis that was discussed previously showed that trust is one of the important factors that were investigated by previous researchers. Trust is a multidimensional construct. McKnight, Choudhury, and Kacmar (2002) distinguish between dispositional, institutional, and interpersonal trust. Institution-based trust has its origins in the sociological literature, which argues that intentions and behaviors are

generated by the situation followed by assurances that expectations will be fulfilled (Pavlou, 2002) . According to McKnight and Chervany (2002), institutional trust is the subjective belief with which organizational members collectively assess that favorable conditions are in place, and that are conducive to the transaction success.

A number of studies have examined the trust factor and found significant results. Choudhury and Karahanna (2008) found that informational trust has a positive impact on relative advantage of the technology, which in turn impacts the intention to use electronic channels. Another study by Tung, Chang, and Chou (2008) found that trust has a positive effect on intention to use electronic logistic information systems. Similarly a study on the adoption of electronic health care record system by Ortega Egea and Román González (2011) found institutional trust to have positive influence on attitude to use EHCR (electronic health care record) systems. However, the study by Wu and Liu (2007) found that trust in online game websites does not have a direct effect on the intention to play online games.

As the literature shows different results, the authors have also investigated different types of trust in their studies. The more suitable one for this research would be the institution based trust. Mcknight, Cummings, and Chervany (1998) described two types of institution based trust – situational normality and structural assurance. Situational normality refers to the belief that success is anticipated because the situation is normal. Whereas the Structural assurances refer to belief that favorable outcomes are likely because of contextual structures, such as contracts, regulations and guarantees. In the social media context, the organizations post lot of information about their organization, products, services and other promotional activities. So there might be need for structural assurance in order to use social media technologies in organizations.

Therefore the impact of structural assurance on social media usage is examined in this study.

### 2.7.4 Social media interactivity

Apart from the abovementioned factors, based on the interview findings, interactivity of the technology was also included in this study. Technologies are perceived to possess attributes that have effect on the decision to adopt and how they will be implemented. Previous studies have found that the design and implementation of the computing systems considers the successful interaction between a human and a computer as a key factor (Lee & Kozar, 2012). Based on that, usability has been an important theme extensively studied in the human–computer interaction (HCI) field (Shneiderman, 1998).

Usability refers to the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use (ISO/IEC, 1998). Considering the growing importance of WWW as a dominant interface, usability researchers have applied the basic usability principles to the web environment and developed web specific usability metrics, guidelines, tools, and techniques (Loiacono, Watson, & Goodhue, 2007; Venkatesh & Agarwal, 2006). Web usability refers to the extent to which web sites can be used by specified users to achieve specified goals to visit with effectiveness, efficiency, and satisfaction in a specified context of website use (Agarwal & Venkatesh, 2002).

Researchers have proposed multiple usability factors from engineering perspective such as page loading, navigation efficiency, download time, successful search rate, error

rates, task completion time and frequency of cursor movement (Gehrke & Turban, 1999). Some factors such as hypermedia presentation, time (availability and contact possibilities), ubiquity (availability and contact possibilities), and expert systems (eg. Personalization) and interactivity (eg. consumer profile) are also suggested as factors for good web design (Schubert & Selz, 1999).

Meanwhile, Lee and Kozar (2012) stated that past studies have identified a variety of website usability factors; however each study proposed different sets of website usability factors specifying different terminology and scope. The differences are mainly because the researchers define website usability differently (some people consider website usability equally with overall website quality, while others treat it as website design quality). Secondly, scope of website usability was also constrained based on their theoretical boundaries (Kim, Lee, Han & Lee, 2002; Lee & Kozar, 2009) or guidelines like Microsoft Usability Guidelines (Venkatesh & Agarwal, 2006). Thirdly, researchers from different disciplines define website usability differently depending upon the goals to be achieved (eg. increase consumer retention, satisfaction, loyalty, positive attitude, purchase intention, trust, or e-business success).

Furthermore, Lee and Kozar (2012) in his study suggested ten usability factors such as simplicity, readability, consistency, learnability, interactivity, navigability, content relevance, supportability, credibility, and telepresence. Among the various design characteristics, interactivity stands out as a key and distinguished factor that impacts users' response to new technologies including websites (Agarwal & Venkatesh, 2002; Jiang & Benbasat, 2007). Rogers (1995) also suggested that interactive innovations or those that offer two-way communication can speed up the adoption process because they attain a critical mass of users more quickly (Lee & Cho, 2011). The crucial role

played by interactivity in the ecommerce realm and other WWW technologies has motivated both academics and practitioners to enhance their understanding of the interactivity concept and to employ it effectively (Jiang, Chan, Tan & Chua, 2010).

For instance, Jiang et al. (2010) in his attempt to study ecommerce usage, divided the interactivity into active control and reciprocal communication. He found that websites with a high level of active control lead to cognitive involvement and, in some instances, affective involvement. Websites with reciprocal communication lead to affective involvement for functional products but not expressive products. Moreover, Lee and Kozar (2009) studied E-business environment and found that interactivity significantly influenced purchase intention. Similarly, Pituch and Lee (2006) found that system interactivity had the positive total effect on perceived usefulness of E-learning. On the other hand, Lee & Cho (2011) found that interactivity plays an influential role for the attitude towards a social media use (Twitter).

Social media is considered as an interactive media. It enables two-way communication rather than one-directional transmissions or distributions of information to an audience (Mayfield, 2008). While traditional electronic media such as television and radio only deliver a linear communication mechanism, social media provides a non-linear or two-way communication environment (Rowley, 2004). Social networking features including Facebook, YouTube, and Twitter become pervasive; e-business sites have rushed to integrate these social networking features into their websites, enabling enhanced interactive communications between consumers or between consumers and organizations (Lee & Kozar, 2012). Adding social networking features also augments site credibility. Therefore, considering the interactive nature of social media, this study investigates the influence of interactivity on the usage of social media in organizations.

## 2.8 Organizational Context

Organizational factor is one of the most widely studied variables in IT adoption research (Jeyaraj, Rottman, & Lacity, 2006). The organizational factors used in this study are Top management support and Entrepreneurial orientation.

### 2.8.1 Top Management Support

Jeyaraj, Rottman, & Lacity, (2006) in their review on 99 IT adoption papers (published between 1992 and 2003), found that top management support is one of the most important determinants of an organization's IT implementation success (Chong & Chan, 2012). According to (Liang, Saraf, Hu, & Xue, 2007), top management members are the primary human agency that translates external influences into managerial actions such as changing organizational structures and establishing policies based on their perceptions and beliefs of institutional practices. Top management's boundary spanning role has been found to significantly affect IT project performance by importing external knowledge and integrating internal knowledge (Mitchell, 2006).

Literature on innovation assimilation, largely views top management as the agency responsible for changing the norms, values, and culture within an organization, and in turn, this enables other organizational members to adapt to the new technological artifact. The norms, values, and culture engendered by the top management permeate to the individual level in the form of procedures, rules, regulations, and routines, which serve as powerful templates that guide individual behavior (Purvis, Sambamurthy, & Zmud, 2001). Top management can provide a vision, support, and a commitment to create a positive environment for innovation (Lee & Kim, 2007).

Numerous studies have shown the relationship between top management support and technology adoption. Chong and Chan (2012) found top management support has a significant effect on all three stages of RFID diffusion. Similarly, top management support was found to be significant determinant of SMEs adoption of enterprise system by Ramdani et al. (2009). A study by Low et al. (2011), whom investigated the cloud computing adoption, also found top management support to be a significant determinant. Also, studies by Ifinedo (2011) and Scupola (2009) found top management commitment and support to be significantly and positively associated with Internet E-business technologies and E-commerce adoption.

Social media is like a 'double-edged sword', as it provides many advantages; there are also some disadvantages due to which the top management might hesitate to use social media. Some of the issues related to social media are that social media usage by employees might affect the productivity, as employees spend more time wasting in social media sites. Reputation management is critical when using social media, dissatisfied customers or employees can post information about organization that might affect the reputation of the organization (Shirky, 2008; Zyl, 2009). Moreover, social media usage in an organization also requires continuous monitoring and proper staff to update the information on the site, so proper resources should be provided for the successful usage of social media. Considering all these issues, top management support can be an important factor for the use of social media.

### 2.8.2 Entrepreneurial Orientation

Even though the content analysis of previous studies did not identify entrepreneurial orientation as a frequently used construct, but the interview findings showed that the

innovation and risk-taking propensity of the organizations does influence the social media usage. Based on resource-based view theory, entrepreneurial orientation is considered as an important asset for firms competing in electronic environment (Colton, Roth, & Bearden, 2010).

Entrepreneurial orientation is defined as the methods, practices, and decision-making styles managers use to act entrepreneurially. These include processes such as experimenting with promising new technologies, being willing to seize new product-market opportunities, and having a predisposition to undertake risky ventures (Lumpkin & Dess, 1996). Thus, the established three key elements of this construct are innovativeness, proactiveness, and risk-taking (Covin & Slevin, 1991; Wiklund, 1999). Based on the interview findings, for this study the innovativeness and risk taking propensity of the firm are further investigated to determine the influence of entrepreneurial orientation of the firm towards social media usage.

In terms of innovativeness, it is proposed that firms with a high entrepreneurial orientation eagerly embark upon experimentation, support new ideas, and depart from existing practices (Lumpkin & Dess, 1996). Risk-taking element is linked to the company's propensity to engage in projects that have uncertain outcomes or high profits and losses (Lumpkin & Dess, 1996).

Not many researchers have studied the direct impact of entrepreneurial orientation on technology adoption; however, some studies have examined the role of entrepreneurial orientation on various aspects of the technology and organizational performances. Elliot and Boshoff (2005) found significant relationship between entrepreneurial orientation and perceived success of Internet marketing. Mostafa, Wheeler, and Jones (2006) found

that firms with high entrepreneurial orientation are more committed to the Internet and have better export performance than firms with low entrepreneurial orientation.

On the other hand, Colton et al. (2010) found that entrepreneurial orientation of the firm does not have a significant positive impact on brand strength in e-tailing but it has a positive significant effect on firm's performance relative to objectives. Previous studies showed mixed results for the entrepreneurial orientation construct. However, for technologies like social media which demands open and two-way communications, organizations must be ready to face both positive and negative consequences from the audience. Therefore, entrepreneurial orientation of an organization is an important factor for social media usage.

## 2.9 Environmental Context

The content analysis results shows that institutional pressure which is based on institutional theory is the most frequently used construct to study the technology adoption in organizations. In this study, institutional pressure is added to the environmental context of the TOE framework. Institutional/external pressures include pressure from competitors, customers and pressure exerted by trading partners.

### 2.9.1 Institutional Pressure

Institutional theory proposes that the institutional environment provides rule-like social expectations and norms for appropriate organizational structures, operations, behaviors, and practices (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 1995; Zucker, 1987). When a firm is deciding whether to adopt an innovation, it will acquire

information regarding institutional expectations and norms, apply the information to appraise the potential costs and benefits of adopting the innovation, and position itself accordingly to hedge against uncertainties (Choi & Eboch, 1998; DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 1995; Zsidisin et al., 2005; Zucker, 1987).

Institutional pressure refers to the pressure that emanate from institutional environments that can induce firms to adopt shared norms and routines (DiMaggio & Powell, 1983). They categorized institutional pressures into normative, mimetic, and coercive pressures. The agents that may exert pressures include a firm's key customers, suppliers, competitors, and the government (Ke et al., 2009). The interview findings (Chapter 4) of the study revealed that social media usage are influenced by mimetic and coercive pressures. Therefore, the two constructs of institutional pressure are considered for further investigation in this study.

Mimetic forces are pressures to copy or emulate other organizations' activities, systems, or structures. Innovations that are deemed to enhance legitimacy are seen as desirable, especially under conditions of uncertainty where actors cannot be sure of the relationship between organizational means and ends. Such copying may be undertaken without any clear evidence of performance improvements. Mimetic forces explain the widespread adoption of, for example, management practices for which there is little empirical evidence of performance benefits that is the following of fads and fashions (Abrahamson, 1996).

Coercive forces are the external pressures exerted by government, regulatory, or other agencies to adopt the structures or systems that they favor. These pressures are often associated with legal requirements, health, and safety regulations, and so on, but may

also stem from contractual obligations with other actors, which constrain organizational variety. The role of coercive forces in institutional theory highlights the impact of political rather than technical influences on organizational change (Ashworth, Boyne, & Delbridge, 2007).

Several studies have taken an institutional approach to study internet technologies' adoption and usage (Purvis et al., 2001; Chatterjee et al., 2002; Teo et al., 2003; Ke et al., 2009, Liu et al., 2010). For instance, Teo et al. (2003) in his study to investigate the financial electronic data interchange (FEDI) found that mimetic pressures, coercive pressures, and normative pressures had a significant influence on organizational intention to adopt FEDI. On the other hand, Liu et al. (2010) in his attempt to study adoption of the Internet enabled supply chain management (eSCM) found that mimetic pressures are not related to eSCM adoption intention whereas normative and coercive pressures are positively associated with eSCM adoption. Similarly Ke et al. (2009) found that coercive and normative pressures have a positive impact on eSCMs adoption.

Institutional pressure constructs are also moderated by other variables to test its impact on technology adoption. For example, Saraf et al. (2012) studied the assimilation of ERP systems and found that the impact of mimetic pressure on system assimilation was moderated by potential absorptive capacity (PACAP), whereas the normative pressure was moderated by realized absorptive capacity (RACAP). Another study on ERP usage by Liang et al. (2007) found that Mimetic pressures positively affect top management beliefs, which then positively affects top management participation in the ERP assimilation process. The study also found that coercive pressures positively affect top management participation in ERP assimilation process without the mediation of top management beliefs. Even for social media, it is possible to state that firms are likely to

be induced to use social media due to the external pressures and it is supported by interview findings of the study as well.

## 2.10 Social Media Usage and its Impact

The content analysis of the 55 articles on organizational adoption of technologies revealed that among the articles analyzed, most of the studies have examined the intention to use or willingness to use the technology, and only 10 studies investigated actual usage. In the current study, since the aim is to study the impact of social media usage on organizational performance, it is appropriate to investigate actual usage. Moreover, the construct system usage continues to be developed and tested by IS researchers (Gelderman, 1998; Goodhue & Thompson, 1995; Guimaraes & Igbaria, 1997).

Researchers studied system usage at three levels – individual, group, and organization (Chan, 2000). Unfortunately, system usage does not have a rigorous definition at any level. To overcome this problem, Burton-Jones & Gallivan (2007) suggested that system usage at any level of analysis comprises three elements; a user (the subject using the IS), a system (the IS used), and a task (the function being performed). Based on these elements they defined system usage as a "user's employment of a system to perform a task". Researchers could measure system usage in a user- centered fashion (measuring users' cognition during use), in a system – centered fashion (measuring tasks for which the IS is used), or in a more holistic fashion, at each level (Burton-Jones & Gallivan, 2007).

For this study, the subject using the technology is the organization, the technology is the social media, and the task is the social media usage for various purposes. However, there is no proper instrument to measure social media usage based on the purpose of usage. Therefore this study developed the instrument to measure social media usage. Thus, social media usage in this study is measured using the system-centered fashion where the measures of system usage are based on the various tasks for which the system is used. Social media are used by business firms and governmental organizations as a communication tool. These entities actively make use of social media for advertising and communicating with customers, building relationship with customers, branding etc. (Kim & Ko, 2012). In order to investigate the usage of social media in organizations, the informed effective use of social media was considered, as this was an important indication of technology success, which in turn has an impact on organizations (DeLone & McLean, 2003).

Next, as the impacts of IS have evolved beyond the immediate user, researchers have suggested additional IS impact measures, such as work group impacts (Ishman, 1998; Myers, Kappelman, & Prybutok, 1998), inter-organizational and industry impacts (Clemons, Reddi, & Row, 1993; Clemons & Row, 1993), consumer impacts (Brynjolfsson, 1996; Hitt & Brynjolfsson, 1994) and societal impacts (Seddon & Kiew, 1994). Clearly, there is a continuum of ever-increasing entities, from individuals to national economic, which could be affected by IS activity. The choice of where the impact should be measured will depend on the system or systems being evaluated and their purposes (DeLone & McLean, 2003).

Based on the DeLone and McLean IS success model, in the current study organizational impact refers to the perceived benefits associated with social media usage (post

adoption - perception after using social media). The perceptual measures were used due to the difficulty of obtaining economic and quantitative measures of actual benefits. Perceived measures have been widely accepted as conceptually meaningful and usable proxies of actual IS benefits (Grover et al., 1998; Mirani & Lederer, 1998; Molla & Heeks, 2007; Saarinen, 1996). Previous studies have proved the positive impact of Internet usage on organizations in various areas such as enhancing CRM practices (O'Leary, Rao, & Perry, 2004), providing interactional and transactional benefits (Thao & Swierczek, 2008), improving export marketing performance (Lu & Julian, 2007), providing strategic benefits such as cost reduction, revenue generation and managerial effectiveness (Teo & Cho, 2001), improving innovation (Anderson, 2001), reducing marketing cost, improving customer relationships, and improving company image and competitive position etc. (Molla & Heeks, 2007).

Moen, Madsen, and Aspelund (2008) examined the use of ICT and its impact on organizations and found that the use of ICT is positively associated with the firm's satisfaction with its development of new market knowledge. The use of ICT for sales purposes is limited and apparently negatively associated with the firm's satisfaction with its development of new market knowledge. It was also found that there is no significant association between the use of ICT and the firm's satisfaction with its international performance.

Another study by Apigian et al. (2005) found that there is a significant relationship between business internet use and internet performance in terms of revenue expansion, relationship enhancement, cost reduction and time reduction. Similarly, Shuai and Wu (2011) in their attempt to study E-marketing found that an Internet marketing tool is positively associated with the firm's performance. In line with those studies that

investigated the relationship between use and performance, this study also aimed to investigate the use and impact on organizational performance but in the context of social media.

Literature claims that through social media, it is possible to perform integrated marketing activities with much less effort and cost than before (Kim & Ko, 2012). Social media can have a dramatic impact on organizations in areas such as enhancing brand's reputation, improving value, relationship, and brand equity (Kim & Ko, 2012), digital advertising and promotion, the handling of customer service issues, mining innovative ideas, and building customer relations (Solis, 2010). Even though social media provide various benefits to organizations, studies investigating social media impact on organizational performance are very limited. Therefore this study attempts to fill up this gap. Through interviews, it was found that the impact of social media on organizations was indicated by various benefits such as cost reduction in terms of marketing, communication and customer service, improved customer relations, and enhanced information accessibility.

## 2.11 Control Variables

In this study, industry, organization size and organization age were used as control variables. Organization size has been found to have a positive influence on adoption behavior (Rogers, 1995). Previous studies had reported that larger organizations are more likely to adopt new technologies (LaRose & Hoag, 1996; Min & Galle, 2003; Papastathopoulou & Avlonitis, 2009) . However, the interview findings of this study revealed that regardless of the size, social media can be used by organizations of any size. However, larger organizations have sufficient resources and staff to monitor the

usage effectively, so the impact of the usage on the performance may be more visible for them. Therefore, the respondents for this study included organizations of several sizes, so the impact might differ for different organizations. Therefore, it is important to use organization size as one of the control variables.

Regarding industry, the differences in the nature of markets and products can make differences in the use of a technology (Papastathopoulou & Avlonitis, 2009) and its subsequent impact. Therefore, this study used industry as another control variable. Technology usage might differ between young and old organizations, and when usage differs, its impact on the organizations' performance may also differ; therefore age of the organization was also considered as a control variable in this study.

## 2.12 Summary

This chapter provided a complete picture of social media usage; the most popular social media tools that are used by individuals and organizations. Thorough content analysis of previous studies was presented, which elaborated the different subjects investigated under social media, the theoretical frameworks, and various methodologies used in these studies. The number of studies that investigated social media from an organizational perspective was also outlined. Then, discussion on various website evaluation models was presented followed by the explanation on various theories and frameworks of technology adoption. Content analysis on factors influencing technology adoption and detailed discussions on the factors used in this study was presented. The following chapter elaborates the research methodology used for this study.

# CHAPTER 3 RESEARCH METHODOLOGY

## 3.0 Introduction

This chapter aims at presenting the research model and hypotheses developed in addressing the problem statement and research questions. The epistemological and ontological orientation of the study is also discussed. Further, the research approach and the selection of methodology for the three phases of the study are discussed in detail. Under the methodology section, the details of Phase I which uses the web content analysis technique and its coding are explained. Under Phase II, the interviews and the validity of the interview results are discussed, followed by explanation on Phase III. Then, the population of interest, unit of analysis, sampling frame, and the sampling method used in the study are explained. Subsequently, the steps involved in questionnaire design, operational definition, measurement of variables, and the assessment of questionnaire validity was elaborated. Finally, the data analysis technique used in Phase III of the research, and information about the assessment of Partial Least Squares path models were discussed.

## 3.1 Research Model

Initially, through interviews the various antecedents and impact factors for social media usage were found. After referring the literature the appropriate theories related to these factors were identified. In order to test and confirm the results obtained from interviews, the identified theories were integrated to develop the research model for the study. Based on the interview findings, the research model for this study combined the aspects of technology, organization, and environment framework, diffusion of innovation

theory, resource based view theory, institutional theory, and the DeLone and McLean IS success model. The main objective of the study is to examine the impact of social media usage in organizations. In addition, the antecedents of social media usage were also investigated. Factors relating to technological, organizational, and environmental context were examined to identify its influence on social media usage in organizations. For the technological context, among the five attributes of diffusion of innovation theory, the factors relative advantage and compatibility were used. The reason for choosing these factors was based on the interview findings of the study which suggested that these two factors influence social media usage in organizations. Furthermore, past literature also suggested that relative advantage and compatibility are closely related to innovation adoption (Wang, Wang, & Yang, 2010).

Along with the two innovation attributes, factors such as cost, trust, and interactivity were also included. Past studies have found that cost effectiveness is often related to adoption of new technologies (Chong & Chan, 2012; Premkumar & Roberts, 1994). Moreover the interview finding of this study also revealed that cost effectiveness of social media is one of the factors that influenced social media usage in organizations.

On the other hand, trust is considered as a significant antecedent of participation in online settings (Gefen, Karahanna, & Straub, 2003; Reichheld & Schefter, 2000). Previous studies have suggested institutional trust as an important factor influencing information exchanges on the online environment (Chai, Das, & Rao, 2011; McKnight & Chervany, 2002). Therefore, considering the importance of the trust factor, this study attempts to investigate its role in the social media environment. Apart from that, social media interactivity was also included in the study under the technological factor. Past literature suggested that interactive innovation which offers two-way communications

are adopted quickly by the user because of its nature (Rogers, 1995; Lee & Cho, 2011). Interview findings also showed that interactivity is an important factor that influenced social media usage in an organization. Therefore, interactivity was included in this study to further investigate its relationship with social media usage.

The two factors examined under the organizational context are top management support and entrepreneurial orientation. Past literature views top management as the agency that is responsible for any changes in organizations and also that motivates the organizational members to use new technologies (Purvis, Sambamurthy, & Zmud, 2001). The results of the interviews revealed the importance of top management support on the usage of social media in organizations. Similarly, the interview findings also found that the entrepreneurial orientation of the firm such as risk-taking nature and innovativeness, have a positive relationship with social media usage. Therefore, top management support and entrepreneurial orientation (based on resource based view theory) are included in the research model to investigate its relationships with social media use.

The factor that is examined under environmental context is based on institutional theory. Based on the interview findings, influences of institutional pressures such as coercive and mimetic pressures on the usage of social media are examined. Several studies have investigated the influence of institutional pressure on technology adoption and usage (Chatterjee, Grewal, & Sambamurthy, 2002; Ke et al., 2009; Liu et al., 2010). The results of the content analysis which was discussed previously in section 2.6 also showed that nearly 55% of the studies investigated the influence of institutional pressure on technology usage. Therefore, this study attempts to examine the influence of institutional pressure on social media usage.

Based on the DeLone and McLean IS success model, the relationship between social media usage and organization impact are examined. The results of the interviews suggested positive impact of social media usage on organizational performance. However, previous studies have examined the influence of technology usage on organizational performance and found both positive and negative results (Moen et al., 2008; Apigian et al., 2005; Shuai & Wu, 2011). Therefore, in order to get clearer results, this study investigated the relationship between social media usage and organizational performances. The identified factors are mapped into the research model as depicted in Figure 3.1. The subsequent section explains the hypotheses development and relationship between the variables.

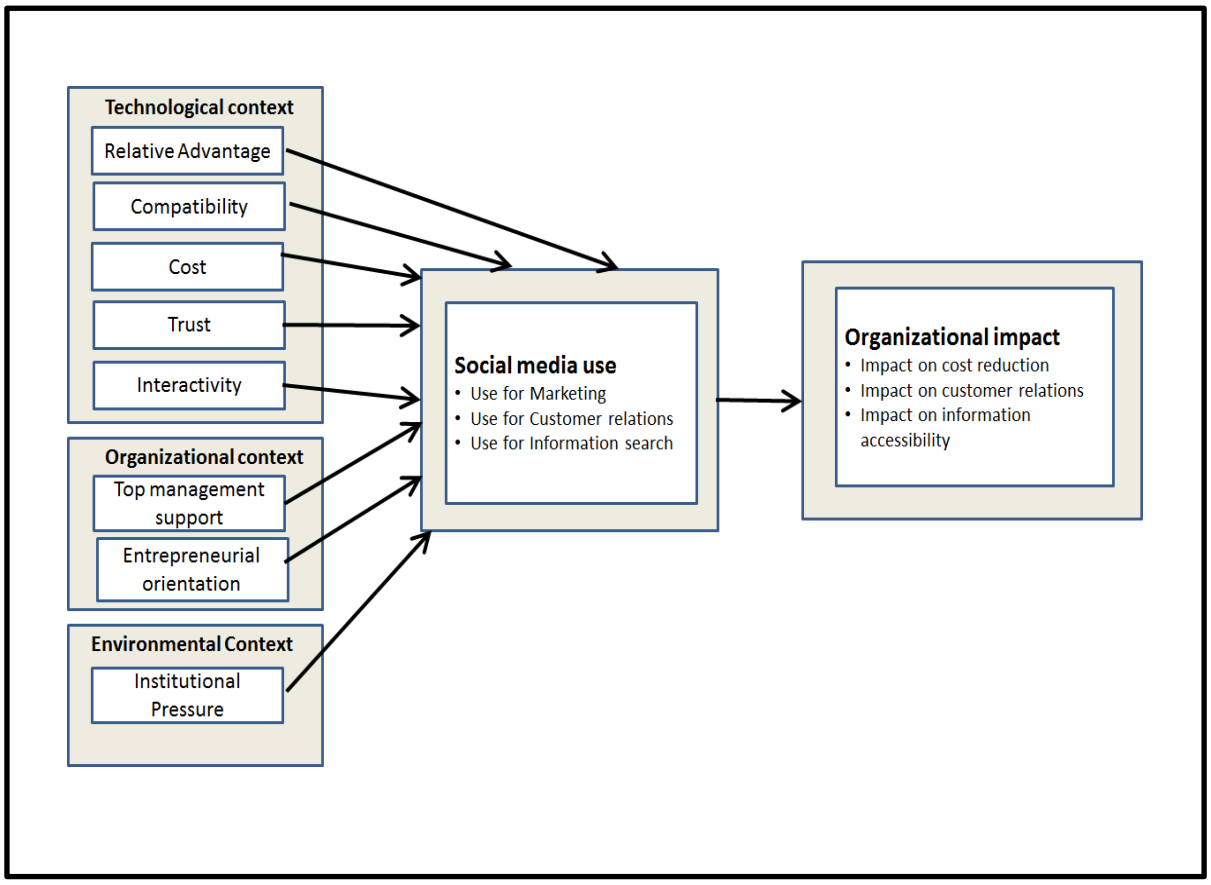


**Figure 3.1: Research Model**

## 3.2 Hypotheses Development

The research model of this study is empirically tested based on nine hypotheses. Figure 3.2 portrays the research model with nine hypotheses put forward in this research. Based on the research model and prior discussions on Chapter 2, the research hypotheses are presented in the subsequent sections.

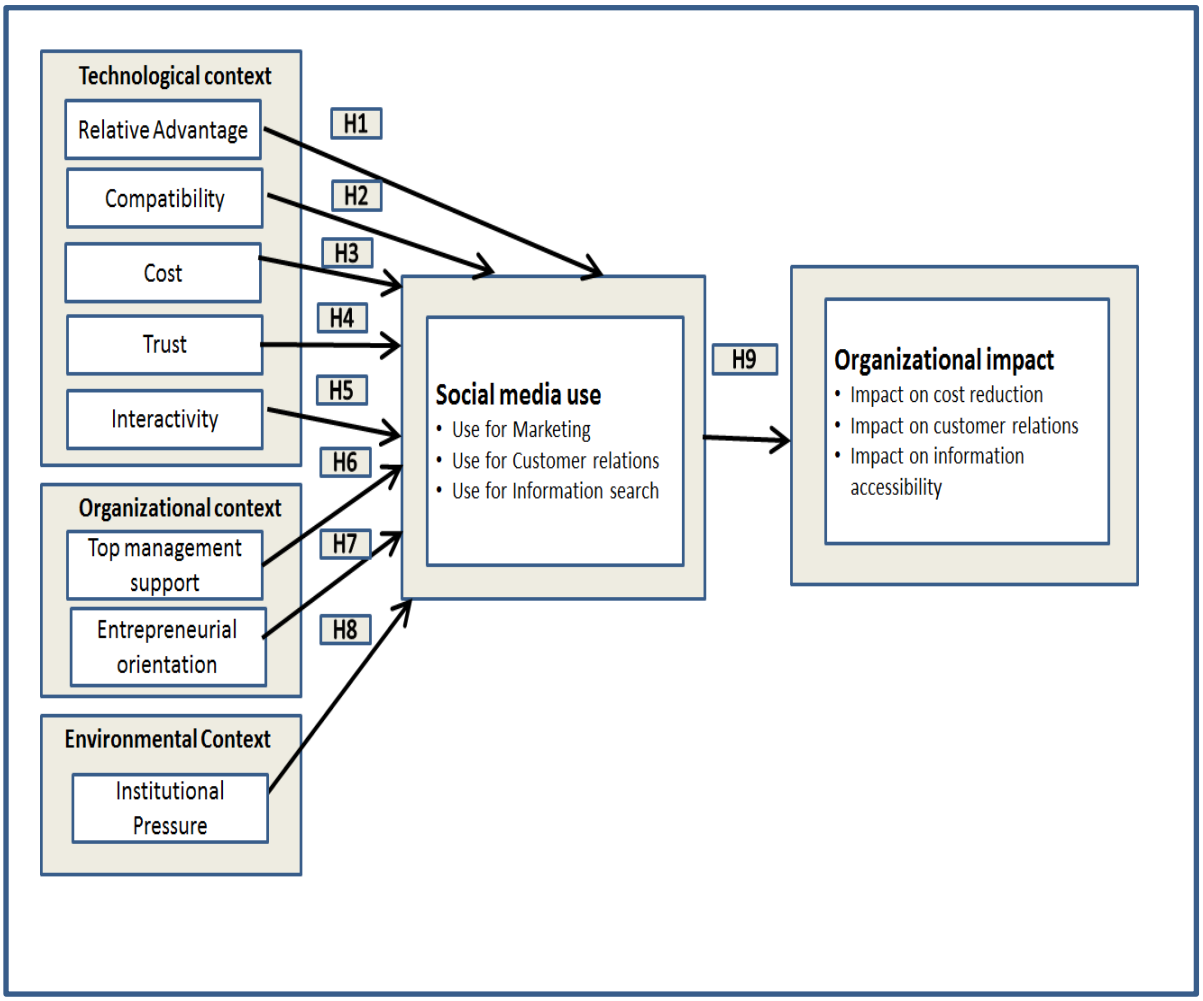


**Figure 3.2: Research Model with Hypotheses**

### 3.2.1 Relationship between Technological Factors and Social Media Usage

Technological factors refer to the perceived characteristics of the technology to be adopted (DePietro et al., 1990). Based on the DOI theory as suggested by Rogers (1983), relevant characteristics about the innovation that can influence its adoption include relative advantage, compatibility, complexity, trialability, and visibility. However, for this study, based on the literature review and interview findings, only relative advantage and compatibility are used to determine its influence on social media usage. Relative advantage focuses on the advantage that is expected from the usage of a particular technology. When a technology is perceived to provide greater benefits, then it is more likely to be adopted.

Previous researchers have found a strong relationship between relative advantage and technology adoption/usage in organizations (Al-Qirim, 2007; El-Gohary, 2012; Ramdani et al., 2009). However, studies have also found that relative advantage is not a significant factor or had a significant negative impact on technology adoption (Ramdani et al., 2009; Low et al., 2011; Wang et al., 2010). This shows that the results of the previous studies are inconclusive and in order identify the role of relative advantage on the use of social media; it is worth to examine the influence of relative advantage on social media usage. As such similar to other technologies, the advantage that social media is perceived to provide might influence the likelihood of the organizations to use the technology. Accordingly, the hypothesis is formulated as :-

**H1:** Relative advantage of social media positively influences social media usage.

Compatibility is another technological characteristic suggested by DOI as a driver of the decision to adopt a new system (Rogers, 1983). When a technology is consistent with the existing technology, infrastructure, culture, values, and preferred work practices of the firm, then it is more likely to be used. Several prior researchers found that higher the compatibility of the technology, the more likely it is adopted (El-Gohary, 2012; Hong & Zhu, 2006; Saraf et al., 2012; Wang et al., 2010). On the other hand, some studies also found that there is no significant relationship between compatibility and technology adoption (Al-Qirim, 2007; Low et al., 2011; Ramdani et al., 2009). In social media context, compatibility may be a significant or insignificant influential factor for social media usage in organizations. Hence, in order to test the relationship the following hypothesis is stated as :-

**H2:** Compatibility of social media positively influences social media usage.

Apart from the innovation attributes suggested by Rogers (1983), costs of IS adoption is considered as an important technological factor in influencing IS adoption (Premkumar & Roberts, 1999; Tan, Chong, Lin, & Eze, 2009; Ghobakhloo, Arias-Aranda, & Benitez-Amado, 2011; Chong & Chan, 2012). Previous studies have investigated the relationship between cost and technology adoption and found significant results (Sangle & Awasti, 2011; Alam, 2009; Chong & Chan, 2012). Whereas, Tan et al. (2009) found that cost has no significant effect on ICT adoption. However, social media is a cost effective technology and organizations can have direct communication with customers at relatively low costs (Kaplan & Haenlein, 2010). Therefore, it is perceived that since social media is cost effective, it is most likely for an organization to use it. So the hypothesis is postulated as :-

**H3:** Cost effectiveness of social media positively influences social media usage.

Trust is considered as an important factor that enables the user organization to build a long-term relationship with technology (Kim et al., 2010). Previous researchers have investigated trust and found that higher the trust on technology, the more likely it will be adopted in an organization (Chong & Ooi, 2008; Choudhury & Karahanna, 2008; Ortega Egea & Román González, 2011; Tung et al., 2008). Therefore, based on the research model, it is interesting to investigate the influence of trust on social media usage. Hence this hypothesis is postulated as :-

**H4:** Trust on social media (structural assurance) positively influences social media usage.

The last variable that is examined under technological context for this study is social media interactivity. Interactive innovations or technologies are more likely and quickly adopted by its users (Rogers, 1995). Interactive feature is one of the key factors that attract users towards a particular website or technology (Agarwal & Venkatesh, 2002; Jiang & Benbasat, 2007). Previous studies have investigated the influence of interactivity on intention to adopt a technology or actual usage behavior and found significant results (Jiang et al., 2010, Lee & Cho, 2011; Pituch & Lee, 2006; Lee & Kozar, 2012). Social media is considered as an interactive technology (Lee & Kozar, 2012; Rowley, 2004). The interactive nature of the technology might influence the organization to use it. Therefore, in order to empirically test this relationship, the hypothesis is stated as:-

**H5:** Interactivity of social media positively influences social media usage.

### 3.2.2 Relationship between Organizational Factors and Social Media Usage

The attributes of the organization that may impact the adoption decision are described as organizational factors (DePietro et al., 1990; Doolin & Troshani, 2007). Top management support is one of the organizational factors used in this study. The involvement, enthusiasm, motivation and encouragement provided by management towards the usage of IS innovations is referred as top management support (Al-Qirim, 2007; Ramdani et al., 2009; Thong, Yap, & Raman, 1996). When top managers understand the potential of the technology, they tend to play an important role in the adoption and usage of the technology especially by allocating resources to its adoption and continuous usage (Thong, Yap, & Raman, 1996; Premkumar & Roberts, 1999).

Past studies have proved the significant relationship between top management support and technology adoption; the higher the top management support the more likely it is adopted (Chong & Chan, 2012; Low et al., 2011; Ramdani et al., 2009; Ifinedo, 2011; Scupola, 2009). However, Wang et al. (2010) found no significant relationship between top management support and technology adoption. Since the results are inconclusive, it is viable to investigate the influence of top management support on social media usage. Therefore, the hypothesis is formulated as follows :-

**H6:** Top management support positively influence social media usage in organizations.

Entrepreneurial orientation of the firm is included as another organizational factor in this study. Entrepreneurial orientation of the firm is represented by its innovativeness and risk taking propensity (Lumpkin & Dess, 1996). Previous studies have found significant results between entrepreneurial orientation, technology usage and success

(Elliot & Boshoff, 2005; Mostafa, Wheeler, & Jones, 2006) which shows that firms with higher entrepreneurial orientation are more likely to use the technology. Therefore, for this study, it is reasonable to predict that firms with higher entrepreneurial orientation are more likely to use social media. Thus, the hypothesis is defined as :-

**H7:** Entrepreneurial orientation of the firm positively influences social media usage.

### 3.2.3 Relationship between Environmental Factors and Social Media Usage

Based on the institutional theory, it is emphasized that the environment forces drive organizations to adopt innovations (Henderson, Sheetz, & Trinkle, 2012). The environment forces are referred to as institutional pressure or external pressure in literature. Previous studies have investigated the influence of three main forms of institutional pressures (being coercive, mimetic, and normative pressure on technology adoption) and found significant results (Teo, Wei, & Benbasat, 2003; Liu et al., 2010; Ke et al., 2009). The interview findings of the study revealed that external pressures such as coercive and mimetic pressures greatly influence social media usage in organization. In order to test this empirically, the hypothesis is postulated as :-

**H8:** Institutional pressures positively influence social media usage.

### 3.2.4 Relationship between Social Media Usage and Organizational Impact

DeLone and McLean (2003) suggested that the informed and effective use of a technology is an important indication of its success, which in turn have an impact on organizations. Previous studies have investigated the relationship between system use and performance and found significant results. For instance, Apigian et al. (2005) found

that higher the internet usage, the more impact it would have on organizations in terms of revenue expansion, relationship enhancement, cost and time reduction. Similarly, when organizations use social media effectively for various tasks like marketing, customer relations and information search, then it is likely to have a positive impact on organizations especially in terms of cost reduction (marketing, communication and customer service), improvement in customer relations and enhancement in information accessibility. This can be empirically tested by setting the hypothesis as :-

**H9:** Social media usage will have a positive impact on organizations.

The next section elaborates on the research design where the research paradigm associated with this study and the research methods used in this study are discussed in detail.

## 3.3 Research Design

A research design is a framework or blueprint for conducting the research project. It details the procedures necessary for obtaining the information needed to structure or solve research problems. Although a broad approach to the problem has already been developed, the research design specifies the details of implementing that approach. A research design lays the foundation for conducting the project. A good research design will ensure that the research project is conducted effectively and efficiently (Malhotra, 2010). There are various ways and procedures suggested by different authors for selecting the appropriate research design. Sarantakos (1998), for example, proposes three steps for selecting the appropriate research design ie. select an appropriate paradigm, select a methodology and select a set of methods. Therefore, following the

above procedures this study has been designed in three steps including selection of a research paradigm, selection of an approach and selection of a methodology.

### 3.3.1 Research Paradigms

Teddlie and Tashakkori (2009, p. 84) define a paradigm as "a worldview, together with the various philosophical assumptions associated with that point of view". Likewise Creswell and Clark (2007) refer to a paradigm as a worldview. Similarly, Greene (2007) uses the term "mental model" in much the same way as a worldview (Hall, 2012). According to these authors, a worldview consists of stances adopted on each of the elements (Cresswell & Clark, 2007) or dimensions of contrast (Teddlie & Tashakkori, 2009) comprising epistemology, ontology, axiology, and methodology.

Epistemology is the philosophy of knowledge or how we come to know (Trochim, 2000). Epistemology poses the following questions: What is the relationship between the knower and what is known? How do we know what we know? What counts as knowledge? (Coll & Chapman, 2000; Cousins, 2002; Krauss, 2005). Ontology refers to the structure and properties of what is assumed to exist (Livari, Hirschheim, & Klein, 1998). Ontology is the nature of reality, being and truth (Teddlie & Tashakkori, 2009). On the other hand, methodology is the collection of methods or rules by which a particular piece of research is undertaken and the principles, theories and values that underpin a particular approach to research (Mackenzie & Knipe, 2006; Somekh & Lewin, 2005). Finally, axiology refers "to the role of values in inquiry" (Teddlie & Tashakkori, 2009, p. 86).

Using these dimensions, Teddlie and Tashakkori (2009) identified five world views or paradigms namely; positivism, postpositivism, constructivism, transformative, and pragmatism. Among the five paradigms, only transformative and pragmatism are seen to be compatible with mixed methods research (Hall, 2012). Since this study uses mixed methods (explained in detail in section 3.5), either transformative or pragmatism can be used.

However, several authors have generated lists of contemporary perspectives regarding the use of paradigms in mixed method research (eg. Greene, 2007; Greene & Caracelli, 1997). Teddlie and Tashakkori (2003) delineated six points of view regarding paradigm use in mixed method research. The six perspectives are A-paradigmatic stance, incompatibility thesis, complementary strength thesis, single paradigm thesis, multiple paradigm thesis, and dialectical thesis. Some scholars see the epistemology-methods link as distracting or unnecessary and ignore it, and conduct research using methods that seem appropriate for their research question. This stance is referred to as A-paradigmatic stance. Secondly, the incompatibility thesis states that the integration of quantitative and qualitative methods is impossible due to the incompatibility of the paradigms that underlie the methods.

Thirdly, the complementary strengths thesis supporters argue that the mixed methods research is possible but that the quantitative and qualitative components must be kept separate so that the strength of each paradigmatic position can be realized. Next, the single paradigm thesis is where the researchers adopt a single paradigm that encompasses both qualitative and quantitative research methods. Multiple paradigm thesis supporters believe that multiple paradigms may serve as the foundation for mixed method research. Finally, the dialectical thesis assumes that all paradigms have

something to offer and that the use of multiple paradigms contributes to greater understanding of the phenomenon being under study. The main component of this stance is the ability to think dialectically (Teddlie & Tashakkori, 2009).

For this study, the singe paradigm approach is followed. This approach, at least in principle, overcomes the problem inherent in the multiple paradigm approach as the problems and difficulties involved in attempting to integrate paradigms are fundamentally based on different assumptions. Two paradigms have been identified as contenders for this approach, namely pragmatism and the transformative approach. The transformative paradigm is emancipatory paradigm proposed by Mertens (2003). This paradigm for mixed methods research places "central importance on the lives and experiences of marginalized groups such as women, ethnic/racial minorities, members of the gay and lesbian communities, people with disabilities, and those who are poor….." (Mertens, 2003, p. 139). This focus of the paradigm limits its application to only a small range of social scientific research (Hall, 2012).

On the other hand, many scholars proposed that pragmatism is the best paradigm for justifying the use of mixed method research (eg. Biesta & Burbules, 2003; Morgan, 2007; Teddlie & Tashakkori, 2009). Pragmatism has gained considerable support as a stance for mixed methods researchers (Feilzer, 2010; Johnson & Onwuegbuzie, 2004; Maxcy, 2003; Morgan, 2007). It provides a set of assumptions about knowledge and inquiry that underpins the mixed methods approach and distinguishes the approach from purely quantitative approaches that are based on a philosophy of (post) positivism, and from purely qualitative approaches that are based on a philosophy of interpretivism or constructivism (Johnson & Onwuegbuzie, 2004; Maxcy, 2003; Rallis & Rossman, 2003).

Epistemology of pragmatism is based on both objective and subjective points of view, depending on the stage of research cycle. Ontology is based on diverse viewpoints regarding social realities, best explanations within personal value systems. Pragmatism follows both inductive and hypothetic-deductive approach and both qualitative and quantitative methods can be used, as researchers answer questions using best methods. This study used methods such as interviews and survey to investigate social media usage by organizations. Therefore, the more suitable paradigm for this study would be pragmatism.

### 3.3.2 Research Approach

Research approaches are generally categorized as quantitative, qualitative, and mixed methods. Quantitative methods may be most simply and parsimoniously defined as the techniques associated with the gathering, analysis, interpretation, and presentation of numerical information. Quantitative researchers originally subscribed to the tenets of positivism. Qualitative methods may be defined as the techniques associated with the gathering, analysis, interpretation and presentation of narrative information. Many qualitatively oriented researchers subscribe to a worldview known as constructivism and its variants (e.g.,Howe, 1988; Lincoln & Guba, 1985; Maxcy, 2003).

Mixed methods (MM) has been defined as "a type of research design in which qualitative and quantitative approaches are used in types of questions, research methods, data collection and analysis procedures, and/or inferences" (Tashakkori & Teddlie, 2003, p. 711). The philosophical orientation most often associated with mixed method is pragmatism (eg. Biesta & Burbules, 2003; Bryman, 2006; Howe, 1988; Tashakkori & Teddlie, 1998, 2003; Teddlie & Tashakkori, 2009).

Teddlie & Tashakkori (2009) explained the differences among the three methodologies (quantitative, qualitative, and mixed methods) by demonstrating their positions on different dimensions of research such as methods, researchers, paradigms, research questions, form of data, role of theory logic, purpose of research, typical studies or designs, sampling procedures, data analysis techniques, and validity/trust worthiness issues. Table 3.1 shows the details about three methodologies.

The methods that are used by qualitative studies are qualitative methods, while in quantitative studies, quantitative methods are used. On the other hand, the mixed method studies use a combination of both quantitative and qualitative methods. Those researchers who conduct qualitative research are known as QUALs, while the quantitative researchers are known as QUANs, and the mixed method researchers are known as mixed methodologists. The paradigm that is often related to qualitative research is constructivism and its variants, whereas quantitative research follows the post-positivism or positivism approach. The more suitable paradigm for mixed method studies could be either pragmatism or transformative depending on the subject of the study.

The form of data used in qualitative studies is narrative data, whereas quantitative is the opposite of it, which uses numeric data but the mixed method studies uses both narrative and numeric data. Exploratory study is often the purpose of research in qualitative study; however, in certain cases it is also possible to carry out confirmatory research using qualitative methods. While quantitative studies are often confirmatory, one can also use quantitative methods to conduct exploratory studies. Similarly, the mixed method studies can be both confirmatory and exploratory.

The qualitative studies are based on a grounded theory approach or inductive logic; whereas the quantitative studies are based on conceptual framework or theory and hypothetico-deductive logic is followed. On the other hand, the mixed method studies use both inductive and deductive logic. Often, qualitative studies could be ethnographic research, case studies etc., while quantitative uses survey, experimental, quasi-experimental designs etc. The mixed method uses designs such as the parallel design where both quantitative and qualitative phases of the study are conducted side by side or in sequential designs, where one method leads to the formation of another.

The sampling procedure followed by qualitative studies are mostly purposive, the researchers select cases or groups in purpose to conduct an in-depth research on that sample, whereas quantitative studies uses probability sampling. Either probability or purposive can be used in mixed method studies. In some cases, both types of samplings can be done in a single mixed method research. The data analysis is based on the identification of themes and categories in qualitative studies, whereas statistical, descriptive, and inferential analyses are the results of quantitative studies. Mixed methods research could integrate the thematic and statistical analysis together in the study.

Finally, the quantitative studies test their validity through internal validity and external validity, but the criteria to test validity is not present in qualitative studies as the validity of qualitative results are based on concepts such as trustworthiness, credibility, and transferability. In mixed method studies, the quality of both inference and inference transferability are used as a basis to test the validity of the results.

In Table 3.1, the various aspects of quantitative, qualitative and mixed methods are clearly stated. This research uses mixed methods to study the organizational usage of social media and its impact on organizational performance. Explanation regarding the mixed method design, theory logic, sampling procedures, data analysis techniques, and validity/trust worthiness associated with this study are elaborated in the remaining part of the chapter.

**Table 3.1: Dimensions of Contrast among the Three Methodologies**

| **Dimension of Contrast** | **Qualitative Position** | **Mixed Methods Position** | **Quantitative Position** |
|---|---|---|---|
| Methods | Qualitative methods | **Mixed methods** | Quantitative methods |
| Researchers | QUALs | **Mixed methodologists** | QUANs |
| Paradigms | Constructivism (and variants) | **Pragmatism; transformative perspective** | Postpositivism Positivism |
| Research questions | QUAL research questions | **MM research question (QUAN plus QUAL** | QUAN research question; research hypotheses |
| Form of data | Typically narrative | **Narrative plus numeric** | Typically numeric |
| Purpose of research | (Often) exploratory plus confirmatory | **Confirmatory plus exploratory** | (Often) confirmatory plus exploratory |
| Role of theory logic | Grounded theory; inductive logic | **Both inductive and deductive logic; inductive-deductive research cycle** | Rooted in conceptual framework or theory; hypothetico-deductive model |
| Typical studies or designs | Ethnographic; research designs and others (case study) | **MM designs, such as parallel and sequential** | Correlational, survey; experimental; quasi-experimental |
| Sampling | Mostly purposive | **Probability, purposive, and mixed** | Mostly probability |
| Data-analysis | Thematic strategies; categorical and contextualizing | **Integration of thematic and statistical; data conversion** | Statistical analysis: descriptive and inferential |
| Validity/trust worthiness issues | Trustworthiness; credibility; transferability | **Inference quality; inference transferability** | Internal validity; external validity |

Source: Teddlie and Tashakkori (2009)

The basic methodological principal of mixed-method research is that methods chosen should be mixed in a way that has complementary strengths and non-overlapping weaknesses' (Teddlie & Tashakkori, 2003, p.16). According to Teddlie and Tashakkori (2009), the three areas where mixed method research is superior to the single approach design is that it can simultaneously address a range of confirmatory and exploratory questions with both the qualitative and quantitative approaches. Mixed method is used in this study as it provides better (stronger) inferences and allows the presentation of a larger spectrum of divergent views (Schulenberg, 2007).

Reviews of published mixed methods studies reveal the diversity of ways in which social researchers use mixed method (eg. Bryman, 2006; Greene, Caracelli, & Graham, 1989; Rocco et al., 2003). Collins, Onwuegbuzie, and Jiao (2006) identified four broad rationales and 65 specific purposes existing within the extensive range of mixed methods research that they reviewed. Synthesizing the various typologies that arise from reviews of existing mixed methods research reveals that some researchers use mixed methods to improve the accuracy of their data while others use mixed methods to produce a more complete picture by combining information from complementary kinds of data or sources.

Mixed methods are also used as a means of avoiding bias intrinsic to single-method approaches; it is conducted as a way of compensating specific strengths and weaknesses associated with particular methods. Moreover, mixed methods are also used as a way of developing the analysis and building on initial findings using contrasting kinds of data or methods. Also, in some cases, mixed methods are used as an aid in sampling, for example, questionnaires being used to screen potential participants for inclusion in an interview program (Denscombe, 2008).

Greene and Caracelli, (1997) categorized mixed method designs into different typologies such as component, triangulation, complementarity, expansion, integrated, iterative, embedded or nested, holistic, developmental and transformative. Component designs are those where data gathering methods are implemented as separate aspects of the evaluation and remains distinct. In triangulation design, the findings from one method used to corroborate findings generated from other methods. Complementarity designs are where the findings from one method are enhanced or elaborated through findings from another method.

Expansion is another type of mixed method design in which different methods are implemented to generate results for different components of the study, where the results are presented side by side (Greene & Caracelli, 1997). Next, is the integrated design where the methods are integrated throughout the evaluation. The iterative design is also a mixed method design in which there will be a dynamic interplay of findings generated through different methods throughout the evaluation. Furthermore, the embedded or nested designs are designs in which one method is located within another, it is called as framework of "creative tension" (Greene & Caracelli, 1997, p.24). On the other hand, the simultaneous integration of methods throughout the research study, building towards one integrated explanation of results is known as the holistic design.

In developmental designs, questions for one strand emerge from the inferences of a previous one, or one strand provides hypotheses to be tested in the next one (Venkatesh, Brown, & Bala, 2013). Finally, transformative designs are designs in which the methods are mixed to capture differing value commitments which can lead to "reconfiguring the dialog across ideological differences" (Greene & Caracelli, 1997, p.24; Teddlie & Tashakkori, 2009).

In this study the impact of social media on organizations are analyzed both qualitatively and quantitatively, using the complementarity design which allowed for stronger inferences when the results of both types of analyses suggest similar findings. The study is also based on developmental design where the qualitative part (Phase II) of the study was used to develop items for social media usage construct. It also helped to identify the appropriate constructs to develop hypotheses and the quantitative part (Phase III) was conducted to test the hypotheses and confirm the results.

Moreover, there are two types of mixed method designs such as mixed methods monostrand designs and mixed methods multistrand design. Mixed methods monostrand designs are simplest of the mixed method designs which involve only one strand of a research study, yet they include both qualitative and quantitative components. Because only one type of data is analyzed and only one type of inference (qualitative or quantitative) is made, these are quasi-mixed designs. Secondly, mixed method multistrand designs are the most complex of these designs. All these designs include at least two research strands (Teddlie & Tashakkori, 2009).

There are five different types of mixed methods multistrand designs, namely; parallel mixed design, sequential mixed designs, conversion mixed designs, multilevel mixed designs, and fully integrated mixed designs (Teddlie & Tashakkori, 2009). Teddlie & Tashakko (2009) explained these designs as follows :-

Parallel mixed designs – In these designs, mixing occurs in a parallel manner, either simultaneously or with some time lapse; planned and implemented qualitative and quantitative phases.

Sequential mixed designs – In these designs, mixing occurs across chronological phases (qualitative, quantitative) of the study; questions or procedures of one strand emerge from or depend on the previous strand, and research questions are related to one another and may evolve as the study unfolds.

Conversion mixed designs – In these parallel designs mixing occurs when one type of data is transformed and analyzed both qualitatively and quantitatively; this design answers related aspects of the same questions.

Multilevel mixed designs – In these parallel or sequential designs, mixing occurs across multiple levels of analysis, as quantitative and qualitative data from these different levels are analyzed and integrated to answer aspects of the same question or related questions.

Fully integrated mixed designs – In these designs, mixing occurs in an interactive manner at all stages of the study. At each stage, one approach affects the formulation of the other and multiple types of implementation processes occur (Teddlie & Tashakkori, 2009).

This research uses sequential mixed design. Sequential mixed designs are designs in which at least two strands of the study occur chronologically. The conclusion based on the results of the first strand lead to the formulation of design components for the next strand. The final inferences are based on the results of both strands of the study. The second strand of the study is conducted either to confirm or disconfirm inferences from the first strand or to provide further explanation for its findings (Tashakkori & Teddlie,

2003). Sequential mixed designs answer exploratory and confirmatory questions chronologically in a pre-specified order.

The sequential mixed design was used in this study due to various reasons:

- Before proceeding with any investigation about social media usage in organizations, it is important to know what type of social media the organizations are using. This was identified through web content analysis in Phase 1. Web content analysis was also conducted to answer the first two objectives of the study.
- Phase 1 provided information on the organizations that are using social media. This information guided the phase 2 of the research to conduct interviews. Interviews were conducted to develop the items for social media usage construct. Previous studies mostly measured usage based on frequency and duration of use (Min & Fei, 2008). There have been calls to examine the usage construct in detail (Jasperson et al, 2005).Therefore this study developed measures for social media usage using the system centered fashion which measures different purpose of social media usage in organizations. Further the interviews were also conducted to identify the antecedents and the impact factors of social media usage.
- The items developed and the factors identified from the interviews guided the phase 3 of the study to develop the research model. And then the model was validated using survey method.

Therefore the study requires a sequential mixed design in order to achieve the objectives. This study started with website content analysis followed by in-depth interviews and the survey as illustrated in Figure 3.3 :-

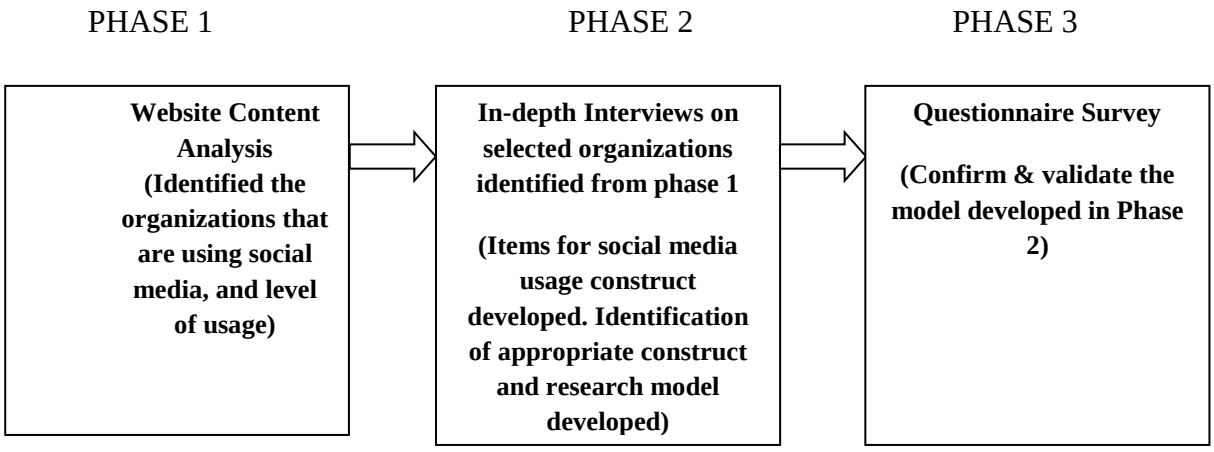


**Figure 3.3: Sequential Mixed Design of this Study**

### 3.3.3 Research Methodology

This study uses both inductive and deductive logics. Deductive logic begins with known theory and tests, usually by attempting to provide evidence for or against a pre-specified hypothesis. Inductive logic begins by making observations, usually in order to develop a new hypothesis or contribute to new theory (Casebeer & Verhoef, 1997). As a first stage of this research, the literature on technology usage and social media was reviewed. Content analysis on social media studies was conducted in order to identify the gaps in the literature. Similarly, content analysis on technology adoption studies was also done to identify the factors that influence technology usage in organizations.

In order to get more insights on social media usage in organizations, in-depth interviews among organizations that are using social media was conducted. The organizations that were using social media are identified by conducting web content analysis on organizations' website and social media pages. Based on the results of phase 1, interviews were conducted among six organizations that were using social media effectively. The effective usage was identified based on the organizations' Facebook likes and their immediacy in replying to customer queries. Using the inductive method,

through interviews the items for social media usage construct was developed. Further, based on the results of the interviews and after referring the literature, the appropriate factors that influence social media usage was identified and the research model was developed subsequently. Hypothetico-deductive model was then used. This model involves a priori deduction of hypotheses from a theory or conceptual framework and the testing of those hypotheses using numerical data and statistical analyses. The quantitative part of the study is the correlational study that looks at the strength of the relationships between variables (Teddlie & Tashakkori, 2009). The three phases of the study such as web content analysis, in-depth interviews, and survey are discussed in depth in the next and subsequent sections.

#### 3.3.3.1 Phase I

In Phase I of the study, web content analysis was used to gather data from Malaysian business organizations' websites and their social media pages. Content analysis is a technique to replicate and make inferences from texts (or meaningful matter) to the contexts of their use. Web pages have been recognized and used for content analysis (Krippendorff, 2004) This useful method provides new insights and increases the understanding of the researcher on particular phenomena, or informs practical actions (Krippendorff, 2004). For this study, the web content analysis was not only used as sampling strategy (to know the organizations that are using social media) but also used to identify the social media applications used by the organizations. Further it was used to investigate the level of usage by analyzing the content of the organizations' social media pages using the disclosure, information dissemination and interactivity framework. The analysis was carried out in four steps. Figure 3.4 illustrates the steps involved in Phase I of the study

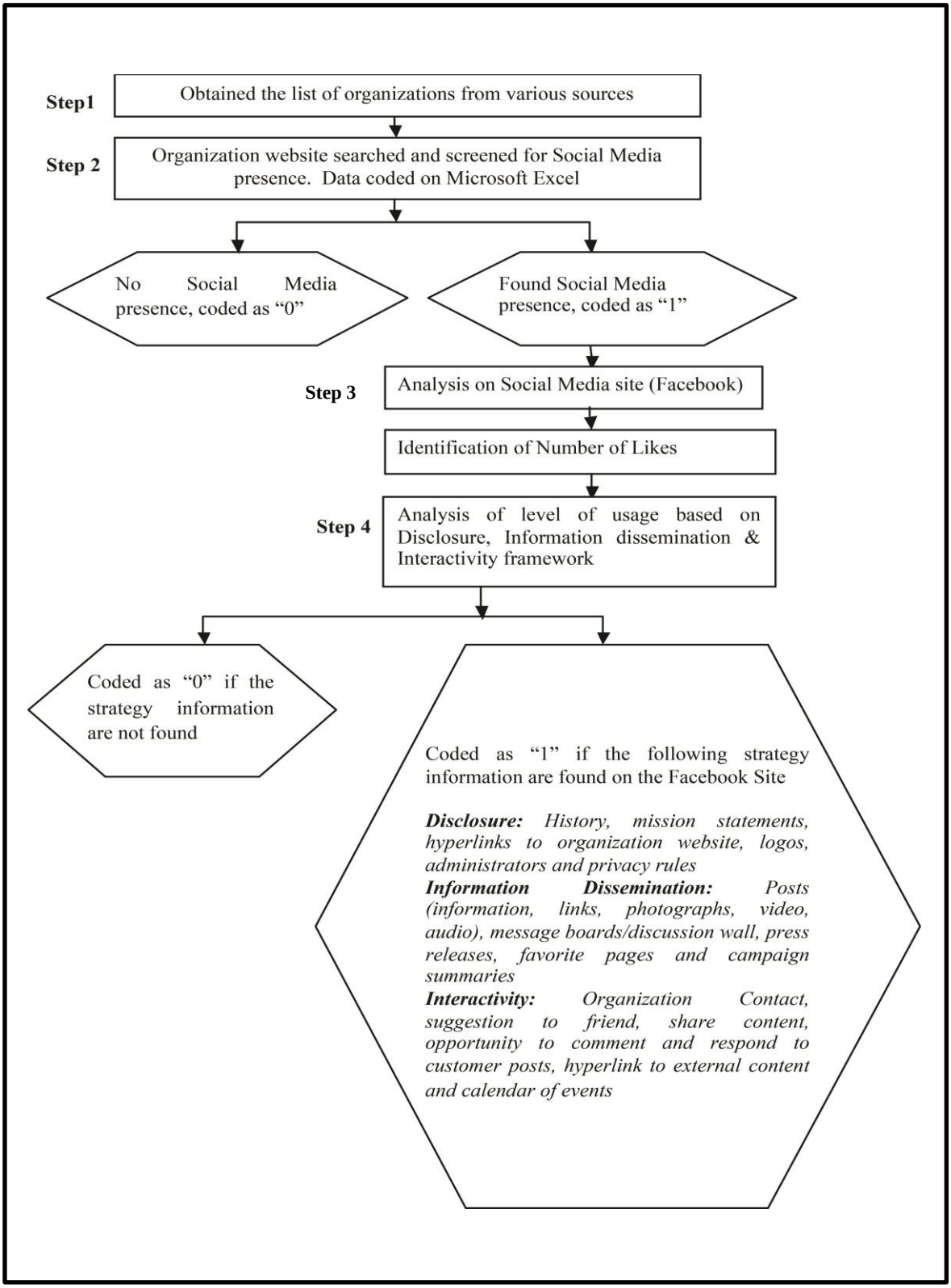


**Figure 3.4: Phase I of the Study**

The first step involved gathering the lists of Malaysian business organizations. Five main sources were used ie. Kuala Lumpur Stock Exchange (list of public listed

organizations), SME Corporation (list of small and medium-sized enterprises), MSC Malaysia (list of MSC status companies), MARTRADE, the national trade promotion agency of Malaysia (listed companies) and the Top 1000 company's directory. The reason for using these sources in particular is that these are government initiated/supported institutions. Therefore, it can be assured that the information and website link of the organizations that are obtained from these sources are reliable. After obtaining the list of organizations from these sources, it was compiled and cross referenced to avoid duplication.

Overall, a list of 9918 organizations was retrieved from various sources but only 7910 organizations were included in the study. The remaining 2008 organizations were excluded due to reasons such as having their website link not found, website link being broken or the website was under construction. For the sources such as Top 1000 directory, public listed organizations, and MSC, all the organizations in the list were included for analysis. Concerning SME Corporation and MARTRADE, since large numbers of organizations were registered under them, in order to narrow down the search process only organizations that belonged to consumer products and service industry was analyzed. The reason for choosing these two industries in particular was because organizations under these industries deal directly with the end customers and have higher chances to use social media to communicate with customers, and to promote their products and services. The total number of organizations and the final number of organizations browsed are summarized in Table 3.

**Table 3.2: Organizations Included in Phase I of the Study**

| **Sources** | **Total No. of Organization** | **No. of organizations' Website's browsed** |
|---|---|---|
| Top 1000 directory, Public listed Companies | 1000 + 957 | 1934 |
| MSC status companies | 2954 | 2339 |
| SME Corp Malaysia | 3154* | 2295 |
| MARTRADE | 1853** | 1342 |
| Total | 9918 | 7910 |

* Kuala Lumpur region (Consumer products & Service Industry only)
** (Consumer products & Service Industry only)

After obtaining the listing, the second step was to identify whether the organizations were using any type of social media. The organizations' websites homepages were searched and screened for any social media presence. For example, the presence of Facebook was identified from the symbol "f" or with the tagline "Find us on Facebook".

To facilitate the analysis, a table was created in the Microsoft excel worksheet with the following headings; Name of the Organization, Industry, Facebook, Facebook Likes, Facebook level of interaction, Twitter, Twitter followers, YouTube, Flickr, Blog, and other social media sites (SMS). Data was entered in the excel sheet whereby, if social media was present in the website of the organization, it was coded as '1', otherwise it was coded as "0". For example, if the organization's homepage has the Facebook icon, then under the Facebook section, it was coded as "1" as an indication of the organization having a Facebook page. Otherwise, the organization without Facebook icon was coded as "0". The same procedure was followed for the identification of other social media sites.

The third step of the analysis is studying the social media sites itself. For example, on the organization's fan page, there is an important feature called "Likes". Facebook

(2011) defined “Like” as “a way to give positive feedback or to connect with things users care about on Facebook”. “Like” is an easy way to let someone know that users enjoy it, without leaving a comment. Brands are displayed through the symbolic act of “liking” a brand (Hollenbeck & Kaikati, 2012). Customers or Publics can express their liking towards an organization/brand by clicking the Like option. After entering the Facebook fan page of the organizations, the number of likes on the wall was identified and listed in the excel file under the Facebook likes section.

Among the 7910 websites browsed, only 664 organizations were using some kind of social media for their business purposes. In order to investigate the level of usage, among the 664 organizations with a Facebook page, only 567 organizations’ Facebook pages were further analyzed, as only these organizations had an official Facebook page for their business activities, others use individual account or groups.

The final step of analysis involved deeper analysis on the organizations’ social media page. The level of usage is examined from the organizations’ social media sites by searching for various information based on the disclosure or openness, information dissemination, and interactivity strategies as suggested by Waters et al. (2009) and Men and Tsai (2011).

The disclosure or openness strategy is identified by the presence of detailed description of the organization and its history, mission statements, use of hyperlinks to connect to the organization’s website, providing of logos and visual cues to establish the connection, and lists of the administrators who were responsible for maintaining the social networking site profile as suggested by Waters et al. (2009) and Men and Tsai

(2011). Additionally, the presence of house rules (eg. privacy policies) were also observed.

Secondly, the information dissemination strategy was used to investigate whether the organizations have posted any information about their products and services, posted links to external news items about the organization or its causes; posted photographs, video, or audio files; and used the message board or discussion wall to post-announcements, press releases, favorite pages and campaign summaries. These criteria were based on studies by Carrera et al. (2008), Waters et al. (2009) and Men and Tsai (2011).

Lastly, the level of interactivity and involvement of the organization with the public was identified by the presence of opportunities to contact the organization such as email address, telephone numbers, to make a suggestion to a friend, to share the content on one's own page on social networking site, to comment on organizational posts and to respond to other users' posts, hyperlink to external content and calendar of events (Waters et al., 2009; Men & Tsai, 2011). Apart from this, the existence of a store in the fan page (which enables organizations to sell their product via Facebook) was also examined. Based on the evaluation of the social media sites, the presence of each strategy is coded and recorded; 1 for its presence and 0 for non –presence. Subsequently, the count (frequencies) and percentages were calculated to identify the level of social media usage. The data for Phase I was collected over a period of three months from Jan 2012 to March 2012.

#### 3.3.3.2 Phase II

After identifying the organizations that use social media, in-depth semi-structured interviews were conducted. This was done to develop the instrument to measure social media usage. Also to explore in detail the factors that influence the social media usage and the benefits the organizations received form social media usage. This method was chosen due to various reasons; organizational usage of social media was quite new (Akar & Topcu, 2011) and also the slack of literature in organizational usage of social media calls for an exploratory research, which can be best achieved through qualitative methods. Previous literature have investigated many factors and proved as antecedents for various information systems usage. But those factors might or might not be an antecedent for social media usage. Unlike any other Internet-based systems, social media is more open and public, and provides both positives and negatives, so it is important to know the particular factors that influence organizational usage of social media which can be identified via in-depth discussions.

Moreover, in most previous studies the usage of social media is measured using frequencies and duration (Min & Fei, 2008) and there is no proper instrument to measure social media usage on the system-centered perspective. Therefore the interviews were conducted to develop items to measure the social media usage construct. Next, the study objective was to identify how the usage of social media affects the performance of the organization. As social media is still in its early stage, its impact measures can be identified only through in-depth discussion with the organization. Therefore, the qualitative semi-structured interviews were chosen as part of the study. This method is more common in qualitative work, where there is a desire

to hear what informants have to say on the topics and areas identified by the researcher (Arksey & Knight, 1999).

For the qualitative part, under the purposive sampling method, the intensity sampling technique was used to select the organizations that were using social media effectively. Intensity sampling involved selecting informative cases that represent a phenomenon of interest intensively (Teddlie & Tashakkori, 2009). Six organizations with high social media usage were selected and semi-structured face to face interviews were conducted. A general interview guide was used where the topics and issues were specified in advance, in outline form; the sequence and wording of questions were altered during the course of the interview. Interview protocol (Refer Appendix 1) was prepared after reviewing the literature on social media and information system adoption. However, a separate list of various antecedents and impact factors were gathered from the literature and the checklist was prepared. The factors mentioned by the interviewee were ticked on the list and any new factors specified by them were added to the list as well. On average, interviews lasted approximately an hour, and were recorded and later transcribed by the interviewer.

Overall, six organizations that were using social media were interviewed. The organizations interviewed were from five different industries such as Consumer products, Telecommunication, Airlines, Manufacturing, and Finance. All the organizations were listed under the main board of The Kuala Lumpur Stock Exchange. The Senior Manager or the Head of the social media department was interviewed. In most organizations the social media comes under either marketing or corporate communication department, except one which had its own social media department. For

two organizations, the Senior Manager along with the social media Executive was interviewed.

After the interview sessions, the data was transcribed. The processes of unitization and categorization were then carried out to make sense of the data. Unitizing is the coding operation where information is isolated from the text. Thus, the unit of analysis is the interview segment which ranges in length from few words to several paragraphs. The emerging themes for various sections were identified from the transcripts based on Schulenberg (2007)'s recommendation.

After identifying the themes, the process of categorization was carried out which involved taking the information units (themes) derived from the unitizing phase and organizing them into categories on the basis of similarity in meaning (Schulenberg, 2007). For the creation of categories, the constant comparison method was used, which entailed a continual revision, modification, and amendment to the category until all new units could be placed into an appropriate category, and the inclusion of additional units did not expand existing categories or create new ones – that is, empirical indicators from the data of the six organizations were compared for similarities and differences, then grouped accordingly. This process is also referred to as open coding whereby all the interview transcripts were reviewed completely for descriptive categories.

For the validity of qualitative research, terms like reliability and validity from quantitative research do not fit the qualitative research as the nature and purpose of the two types of research are different (Krefting, 1991). The validity of the qualitative research can be assessed by three measures such as credibility, confirmability, and transferability (Albrechtsen, 2007; Thagaard, 2002). Credibility of the results is

supported by the description of the research process. The data transcribed must portray exactly what was said by the respondent during the interview and the reporting of the data should also be accurate. In order to ensure this, the transcription was done word by word after listening to the interview recording several times. Further, in order to collect accurate data from the respondent, during the interview the researcher acted as a discussion partner just listening to the informants and questioning them when necessary without influencing the informants. Furthermore, detailed descriptions (Chapter 4) were also given to ensure the credibility of the research.

Secondly, confirmability is created by developing research questions from theory, by continuous control during interviews and exact transcription (Albrechtsen, 2007). In order to assess confirmability, the researcher did an in-depth literature review and content analysis of various theories and factors before the interview and developed the research questions based on that. Moreover, after the interviews, the summary of the interview transcripts were sent via email to the informants to double check the content and subsequently they did not provide any major comments.

Next, in order to ensure validity, the measure for transferability was investigated. Since the qualitative results are not generic, considerations should be given to check whether the results are transferable to other context. This study is conducted among organizations that are using social media. Organizations from different industries were purposely selected and interviewed. The information about the context and the organizations that are studied are described clearly, in order to give an understanding of the context, thus strengthening the possibility to transfer the results to other contexts. The data for Phase II was collected over a period of four months from April 2012 to July 2012.

#### 3.3.3.3 Phase III

Based on the results of the qualitative analysis and after reviewing the relevant literature, the research model and the hypotheses for the study were developed. At this stage of the study, the purpose was to test a number of hypotheses and examine the hypothetical relationships. In hypotheses testing research, the hypothetical relationships are tested to obtain an answer to the hypothesis. The rigor of methodology enhances when scholars shift from an exploratory study to a hypothesis-testing study. Since this study investigates the relationship between the independent and dependent variables, therefore the investigation is correlational in nature. A correlational study is employed when the researcher's concern turns to the relationship between the variables or concepts.

The next step is to make a decision on the research method to be employed. Since the study aims to investigate the association among the constructs, the hypothesis-testing methods like field research and structured surveys will be the more appropriate methods. Therefore, survey method was employed in this study. Moreover, this research is a cross-sectional study in which the data have been gathered over a three-month period from October to December 2012. Cross sectional designs involve the collection of information from any given sample of population elements only once. (Malhotra, 2010).

### 3.3.4 Population of Interest and Unit of Analysis

The target population is the collection of elements or objects that possess the information sought by the researcher and about which inferences are to be made

(Malhotra, 2010). For the present study, organizations that are using social media in Malaysia are the target population. An element is a single member of the population. Therefore, in this study, element refers to each organization that was using social media. As mentioned earlier in section 3.3.3.1, the organizations that are using social media are identified in phase I through the web content analysis method.

Furthermore, the unit of analysis is determined by the objective of the study (Sekaran & Bougie, 2010). Since the social media usage by organizations is being studied, the unit of analysis for this study is the organization. Additionally, it is also important to determine the respondents representing the unit of analysis (Hair, Bush, & Ortinau, 2006). For this study, key organizational informants such as Senior Managers from the corporate communication or marketing department or the Head of social media team are the respondents following the single key-informant approach, the most commonly used method in organizational research (Kumar, Stern, & Anderson, 1993).

As mentioned earlier, this study used survey method for collecting data from the respondents using a structured survey method. In structured data collection, formal questionnaire is prepared and the questions are asked in a pre-arranged order; thus the process is also direct. The survey method has several advantages such as the questionnaire which is simple to administer and the data obtained are reliable because the responses are limited to the alternatives stated. The use of fixed-response questions reduces the variability in the results that may be caused by differences in interviews. Moreover, coding, analysis, and interpretation of data are relatively simple (Malhotra, 2010). For this study, online survey was used, where the questionnaire was designed using the online survey portal (www.surveymonkey.com) and the survey link was emailed to the organizations.

### 3.3.5 Sampling Frame and Sampling Method

A sampling frame is a representation of the elements of the target population. It consists of a list or set of directions for identifying the target population (Malhotra, 2010). Unfortunately, there was no source (sampling frame) which could show all the organizations adopting social media in Malaysia. Therefore, through a variety of sources the list of organizations were gathered (refer section 3.3.3.1). Then, through web content analysis which was discussed in Phase 1, the organizations using social media were identified.

Overall 7910 organizations' websites were browsed and only 664 organizations were identified with social media presence. The Senior Managers who handle the social media in the organization were contacted and asked if they were willing to participate in the survey. After getting their consent, the survey link was emailed to them. Two weeks later, emails were sent to remind them about the survey. The next section will discuss the steps followed while designing the questionnaire for the survey.

## 3.4 Questionnaire Design

A questionnaire is a formalized set of questions for obtaining information from respondents. The main objective of the questionnaire is that it must translate the information needed into a set of specific questions that the respondents can and will answer. A questionnaire must uplift, motivate, and encourage the respondent to become involved, to co-operate and complete the survey. Furthermore, a questionnaire should also minimize response error (Malhotra, 2010). In order to achieve all these objectives,

the questionnaire for this study was designed based on the questionnaire design process suggested by Malhotra (2010). Figure 3.4 illustrates the questionnaire design process.

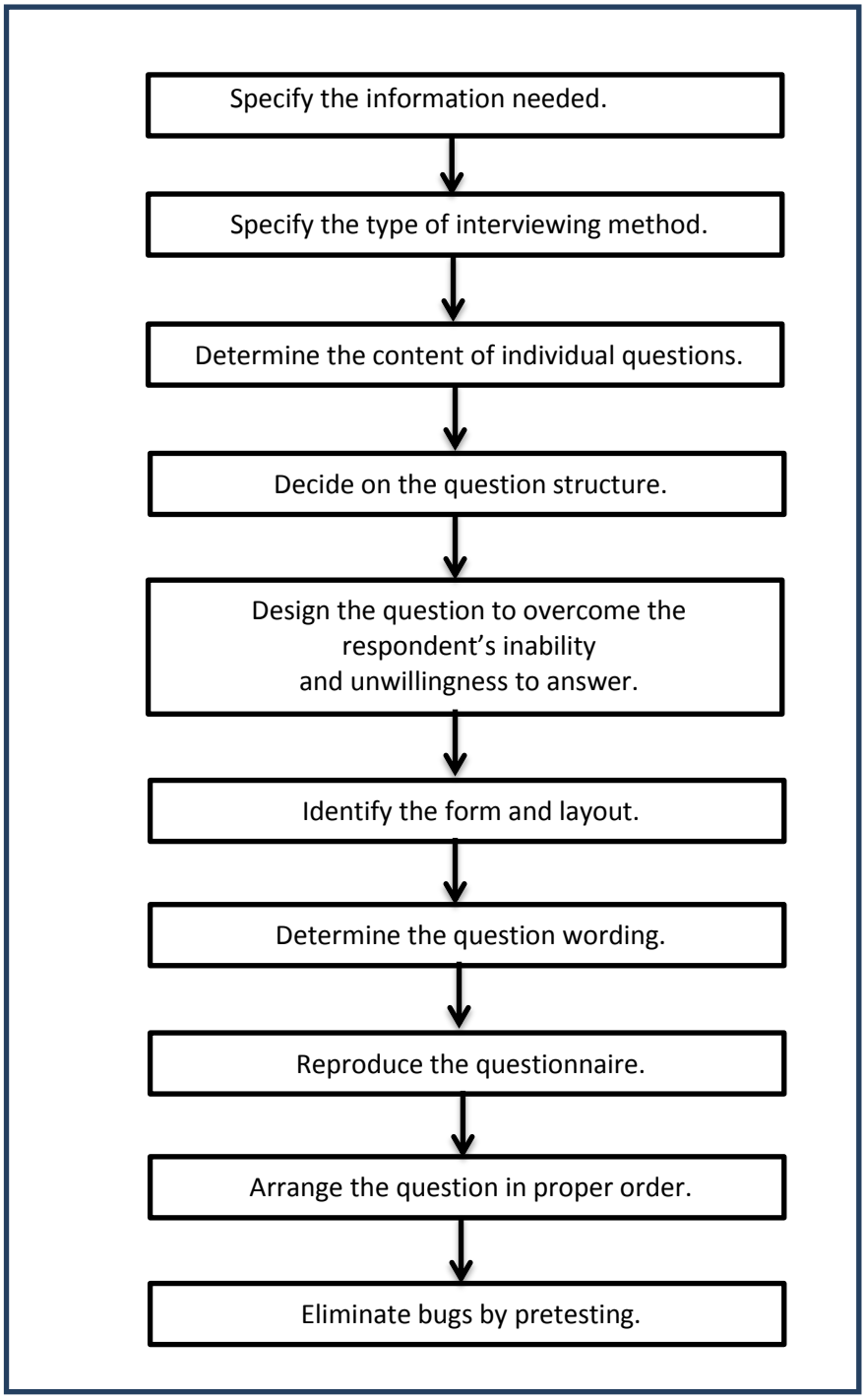


**Figure 3.5: Questionnaire Design Process**

Source: Malhotra (2010)

The first step in questionnaire design is to specify the information needed. Based on the research questions and hypotheses, the information needed for the research was drafted. Secondly, the type of interview method is important. Since this study used online survey, the questions were designed as simple as possible. Clear and proper instructions were given to the respondents. The next step in the questionnaire design process is to determine individual question content. As this study concentrates on social media usage from organizational perspective, demographic questions such as sex and age were eliminated. Only questions related to the study variables and some firmographic questions were included in the survey.

Next, the questions were designed in such a way that helps to overcome the respondent's inability and unwillingness to answer. Apart from the social media and other related constructs questions, sensitive or complicated questions were not imposed in the questionnaire. Moreover, the questionnaire was emailed to the person who was knowledgeable about social media usage in their organization to get an accurate response. This was ensured by emailing the survey link to the right person like Senior Managers of the social media team, marketing, or corporate communication departments.

Next, a proper questioning structure was chosen. Structured questions specify the set of response alternatives and the response format. A structured question may be multiple choices, dichotomous, or represented as a scale. In this study, majority of the questions used scale type, but questions based on multiple choices and dichotomous were also used. Multiple choice questions are those that provide a choice of answers and respondents are asked to select one or more of the alternatives given. For example, the questionnaire contained questions such as :-

How fast/often does your organization post information/respond to customer queries on social media?

□ within an hour □ within a day □ within a week □ within a month □ more than a month

Dichotomous questions have only two response alternatives: yes or no, agree or disagree, and so on. An example in the questionnaire is as follows :-

Do you play an integral role in the company decision making process in the usage of social media?

□ yes □ no

Additionally, the items of the variables were measured using 5-point Likert scale with anchorage from strongly disagree (1) to strongly agree (5). Likert scale requires the respondents to indicate a degree of agreement or disagreement with each series of statements related to the stimulus objects (Malhotra, 2010). The 5-point Likert scale was used as it is easy to respond to and takes considerable lesser time to complete when compared to open-ended questions (Churchill, 1979). An example of a Likert scale question in the questionnaire is as follows :-

| **Compatibility of social media** | **Strongly disagree** | **Disagree** | **Neutral** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| Social media adoption is compatible with our information technology infrastructure. | 1 | 2 | 3 | 4 | 5 |

The questions were worded clearly and in a manner that was easily understandable, which reduced the problem of item non-response and response error. Then, the questions were arranged in a manner that attracted the respondents' attention and continued their participation. The questionnaire started with general and simple

questions, and the firmographic questions were placed at the end. Since an online survey tool was used to design the questionnaire, a wide range of formats, colors, and design was provided by the online survey tool to design the questionnaire.

The questionnaire was designed in such a way that is easy to read and answer. The online survey tool made the job easier in reproducing the questionnaire in a perfect manner. Just by clicking on the survey link, the respondent will be directed to the survey page. Proper instructions were given to complete the questionnaire. After completion of the questionnaire, a "Thank you for completing the survey" message was generated to thank the respondents. The questionnaire is attached as Appendix I.

The main content of the questionnaire measured technological, organizational, and environmental factors, social media usage, and organizational impact factors. The measurement scale for each of the variables is adapted from past researchers. The next section elaborates the measurement of variables.

## 3.5 Measurement of Variables

The measurement of research variables is an essential feature of the research design. In order to answer the research questions and to test the hypotheses, the researcher needed to measure the variables in some way. Measures for all the variables of this study were adapted from previous research except few which were derived from interview findings. Operational definitions of the variables are presented in the following paragraphs.

### 3.5.1 Relative Advantage

Based on the DOI theory, an IS innovation which is perceived to offer relative advantage over the organizations' current practice, is more likely to be adopted (Lee et al., 2004). Relative advantage is conceptualized in this study as the degree to which an innovation is perceived as providing greater organizational benefits than the idea it supersedes or the status quo (Rogers, 1983). The conceptualisation of relative advantage was measured using seven items adapted from To and Ngai (2006), Ghobakhloo et al. (2011), Sophonthummapharn (2009). These measures were chosen as it was in line with the interview findings of the study. For ease of comprehension by respondents, this study employed a 5-point Likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate the perceptions about social media relative advantage. The wordings of the items and its source are shown in Table 3.3.

**Table 3.3: Items related to Relative Advantage**

| No. | Items | Source |
|---|---|---|
| 1. | Increase in business opportunities | To and Ngai (2006) |
| 2. | Improvement in customer service | To and Ngai (2006) |
| 3. | Improvement in customer relations | Sophonthummapharn (2009) |
| 4. | Enhancement in competitiveness | To and Ngai (2006) |
| 5. | Analyse customer requirements more efficiently | Sophonthummapharn (2009) |
| 6. | Allows for better advertising and marketing | Ghobakhloo et al. (2011) |
| 7. | Enhances the company's image | Ghobakhloo et al. (2011) |

### 3.5.2 Compatibility

Organizations are more likely to use a technology, when it is compatible with organizational values and current IT systems (Low et al., 2011). Compatibility of an innovation with a business is conceptualized in this study "as the degree to which an innovation is perceived as consistent with the existing values, past experiences, and

needs of potential adopters" (Rogers, 2003, p. 240). The conceptualisation of compatibility was measured using three items adapted from Rogers (1995), Teo, Tan, and Wong (1997-98) and Teo and Pian (2003). This is one of the frequently used measurements for compatibility; therefore it was used in this research as well. This study employed a 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate the perceptions about social media compatibility. The wordings of the items and its source are shown in Table 3.4.

**Table 3.4: Items related to Social Media Compatibility**

| No. | Items | Source |
|---|---|---|
| 1. | Social media adoption is compatible with our information technology infrastructure | Rogers (1995), Teo, Tan, and Wong (1997-98), Teo and Pian (2003) |
| 2. | Social media adoption is consistent with our organizational beliefs and values. | |
| 3. | Social media adoption is consistent with our business strategy | |

### 3.5.3 Cost

Technologies that are perceived to be low in cost are more likely to be adopted (Tornatzky & Klein, 1982). Therefore, cost is conceptualized in this study as the perceived cost effectiveness of social media. The cost factor was measured using three items adapted from Chong and Chan (2012), and modified to the context of social media. Previous studies have used various instruments to measure the cost of technology, but this study adapted the measures used by Chong and Chan (2012) as it measures not only the cost but the cost effectiveness of the technology. The 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree was used to evaluate the perceptions about cost efficiency of social media among organizations. The wordings of the items and its source are shown in Table 3.5.

**Table 3.5: Items related to Cost Effectiveness**

| No. | Items | Source |
|---|---|---|
| 1. | Social media is more cost effective than other types of marketing or customer service technologies. | Chong and Chan (2010) |
| 2. | Organization can avoid unnecessary cost and time by using Social media. | |
| 3. | Social media saves costs related to time and effort in marketing, branding and customer service. | |

### 3.5.4 Trust

Under institution-based trust, the structural assurance factor is used in this study. Structural assurance is conceptualized in this study as the belief that favorable outcomes are likely because of contextual structures, such as contracts, regulations, and guarantees (McKnight et al., 1998). The conceptualisation of structural assurance was measured using three items adapted from (Chai, Das, & Rao, 2011). The reason for choosing the measures used by Chai, Das, and Rao (2011) is that he employed these measures to study the blog environment which is similar to the social media context. Therefore, using these measures would be more appropriate for this study. This study employed a 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate the perceptions about trust on social media. The wordings of the items and its source are shown in Table 3.6.

**Table 3.6: Items related to Trust**

| No. | Items | Source |
|---|---|---|
| 1. | The Social media sites (e.g., Facebook, twitter) that my organization uses provide enough safeguards to make us feel comfortable using it to post our organization's information. | Chai, Das, and Rao (2011) |
| 2. | The Social media sites (e.g., Facebook, twitter) that my organization uses provide a robust and safe environment in which to transact our information. | |
| 3. | Our organization feel assured that legal and technological structures adequately protect us from problems on the social media. | |

### 3.5.5 Social Media Interactivity

The interactive nature of the technology influences the organizations to use it (Lee & Cho, 2011). Based on prior studies, social media interactivity is conceptualized in this study as the website's ability to create vivid interaction and communication with users (Lee & Kozar, 2012). The conceptualisation of interactivity was measured using four items adapted from Lee and Kozar (2012), and modified to the context of social media. This instrument was chosen as it measured the interactive features of websites which include interactive components, graphics, features that enhances communication, and responsiveness of the site. These features are the important aspects of any social media site. Therefore, it was appropriate to use this instrument to measure social media interactivity. For ease of comprehension by respondents, this study employed a 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate the perceptions about social media interactivity. The wordings of the items and its source are shown in Table 3.7.

**Table 3.7: Items related to Social Media Interactivity**

| No. | Social media Interactivity | Source |
|---|---|---|
| 1. | Interactive features of the social media sites that my organization use (e.g., Facebook and twitter) are vivid and evoke responses. | Lee and Kozar (2012) |
| 2. | The social media sites provide features for interactive communication with our customers. | |
| 3. | The social media sites provide an appropriate amount of interactive features (e.g., graphics, pop-up windows, animation, music, voices). | |
| 4. | The social media sites contain components to help the interaction between it and consumers. | |

### 3.5.6 Top Management Support

The organizational context variable, top management support refers to the involvement, enthusiasm, motivation, and encouragement provided by management towards the acceptance of IS innovations (Thong, Yap, & Raman, 1996; Chatterjee et al., 2002; Al-Qirim, 2007; Ramdani et al., 2009). Top management support was measured using four items adapted from Liang et al. (2007), Chong and Chan (2012), Wang et al. (2010) and Teo and Pian (2003). The items were adapted from various authors in order to get the most relevant items to measure the top management support in terms of social media. This study employed a 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate the top management support for social media usage. The wordings of the items and its source are shown in Table 3.8.

**Table 3.8: Items related to Top Management Support**

| No. | Items | Source |
|---|---|---|
| 1. | Top management considers Social media adoption as important to the organization. | Teo & Pian (2003) |
| 2. | Top management effectively communicates its support for the use of Social media | Chong & Chan (2012) |
| 3. | Top management is likely to invest funds in social media technology | Wang et al. (2010) |
| 4. | Top management had established goals and standards to monitor the social media usage in organization. | Liang et al. (2007) |

### 3.5.7 Entrepreneurial Orientation

Covin and Slevin (1991) described an entrepreneurial orientation as a dimension of strategic posture represented by a firm's risk-taking propensity, tendency to act in competitively aggressive, proactive manners, and reliance on frequent and extensive product innovation. The interview findings of the study suggested that the risk taking propensity and innovativeness of the firm influences social media usage. Therefore,

these two sub-constructs are considered to measure the entrepreneurial orientation of the firm in this study.

A firm's entrepreneur orientation can be described in several ways; however this study incorporated the measurement used by Lin, Peng, and Kao (2008). The instrument is widely used in various studies to measure the entrepreneurial orientation of organizations (Covin and Slevin (1989), Naman and Slevin (1993), Hult, Hurley, and Knight (2004)) etc. Therefore, this study also used this instrument to measure the entrepreneurial orientation of the organizations. The risk taking propensity was measured by three items, followed by innovativeness which was measured by five items. This study employs a 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate the entrepreneurial orientation of the organizations. The wordings of the items and its source are shown in Table 3.9.

**Table 3.9: Items related to Entrepreneurial orientation**

| No. | Items | Source |
|---|---|---|
| 1. | To seek the sales growth, our company is willing to execute some risky projects | Lin, Peng, and Kao (2008) |
| 2. | Even though the costs for some projects are high, under some conditions, our company will still launch those projects | |
| 3. | Our company can accept the uncertainties existing in the projects | |
| 4. | Our company frequently tries out new ideas | |
| 5. | Our company seeks out new ways to do things | |
| 6. | Our company is creative in its methods of operation | |
| 7. | Our company is often the first to do marketing for new products and services | |
| 8. | Innovation in our company is perceived as too risky and is resisted. | |

### 3.5.8 Institutional Pressure

Institutional pressure is the pressure that arises from institutional environments that can induce organizations to adopt shared norms and routines (DiMaggio & Powell, 1983).

Based on the interview findings, social media usage are influenced by Coercive and mimetic pressures. Coercive pressure is defined as a conformist pressure on a focal organization, emanating from other organizations upon which it depends for critical resources, or from institutions upholding the cultural expectations of the society in which it functions (DiMaggio & Powell, 1983). Mimetic pressure is defined as the pressure experienced by the focal organization to model itself after other organizations in its organizational field when faced with uncertainty over goals, technologies, means-ends relationships etc. (DiMaggio & Powell, 1983). Since this study focuses on social media usage, the measures of institutional pressures were adapted from studies in the information systems literature. More specifically, the scales were adapted from Liu et al. (2010), Teo et al. (2003), Khalifa and Davison (2006).

Mimetic pressure was measured by three items on the perceived success of competitors who had adopted social media, and coercive pressure was measured by four items on the perceived dominance of supplier adopters and customer adopters. All the items were deemed to be more suitable to measure institutional pressure in the context of social media and hence used in the study. This study employed a 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate the perception of institutional pressure for social media usage. The wordings of the items and its sources are shown in Table 3.10.

**Table 3.10: Items related to Institutional pressure**

| No. | Items | Source |
|---|---|---|
| 1. | Our main customers that matter to us believe that we should use Social media. | Teo et al. (2003), Khalifa & Davison, (2006), Liu et al. (2010) |
| 2. | We may not retain our important customers without Social media | |
| 3. | Our main suppliers that matter to us believe that we should use social media | |
| 4. | Our suppliers that are crucial to us wish us to use Social media. | |
| 5. | Our main competitors that have adopted Social media benefited greatly. | |
| 6. | Our main competitors that have adopted Social media are perceived favourably by customers. | |

### 3.5.9 Social Media Usage

The variable social media usage represents the use of Facebook, Twitter, and other social media tools for various purposes in the organization. All the items for the usage constructs were developed from the interviews that were conducted during the phase II of the study.

Moreover, this study also categorizes the social media usage into three sub-constructs such as social media used for information search, social media used for marketing and branding, and social media used for building customer relations. This study employed a 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate the various purpose of social media usage. The wordings of the items are shown in Table 3.11.

**Table 3.11: Items of Social Media Usage**

| No. | Sub constructs | Items | Source |
|---|---|---|---|
| 1. | Social media used for information search | Social media is used to search for general information | Interviews |
| 2. | | Social media is used to search for competitor information | |
| 3. | | Social media is used to search for customer information | |
| 4. | Social media used for marketing & branding | Social media is used for branding | |
| 5. | | Social media is used for advertising and promotion of company's product and services | |
| 6. | | Social media is used for conducting marketing research | |
| 7. | | Social media is used for getting referrals (Word-of-Mouth via likes, shares and followers in facebook, twitter etc.,) | |
| 8. | Social media used for building customer relations | Social media is used to develop customer relations | |
| 9. | | Social media is used to communicate with customers | |
| 10 | | Social media is used for customer service activities | |
| 11. | | Social media is used to receive customer feedback on firms existing product or services | |
| 12. | | Social media is used to receive customer feedback on new or future product or services | |
| 13. | | Social media is used to reach new customers | |

### 3.5.10 Organizational Impact

Organizational impact refers to the perceived benefits associated with social media usage (post adoption- perception after using social media). This study categorized organizational impact into three sub-constructs, namely the impact in terms of cost reduction, improved customer relations, and improved information accessibility. All

items were adapted from previous studies such as Apigian et al. (2005), Teo and Choo (2001), Mirani and Lederer (1998), Elliot and Boshoff 2005 and Molla and Heeks, (2007). Items from various abovementioned sources were adapted in order to identify the suitable impact factors that were in line with the interview findings of the study. This study employed a 5-point likert scale with anchors ranging from 1=strongly disagree to 5=strongly agree to evaluate social media impact. The wordings of the items and its source are shown in Table 3.12.

**Table 3.12: Items of Social Media Impact**

| No. | Sub constructs | Items | Source |
|---|---|---|---|
| 1. | Cost reduction | Reduced the cost to communicate with customers | Apigian et al. (2005) |
| 2. | | Reduced the cost of advertising and promotion | Teo and Choo (2001) |
| 3. | | Reduced the cost of customer service and support | Teo and Choo (2001) |
| 4. | Improved customer relations & services | Enhanced customer service | Molla and Heeks (2007) |
| 5. | | Increased customer loyalty and retention | Molla and Heeks (2007) |
| 6. | | Improved customer relationship | Molla and Heeks (2007) |
| 7. | Improved information accessibility | Enabled easier access to customer information | Elliot and Boshoff (2005), Mirani and Lederer (1998) |
| 8. | | Enabled easier access to competitor information | Elliot and Boshoff (2005), Mirani and Lederer (1998) |
| 9. | | Enabled easier access to market information | Elliot and Boshoff (2005), Mirani and Lederer (1998) |
| 10. | | Enabled faster delivery of business information to customers | Mirani and Lederer (1998) |

By using the above measures, the questionnaire was developed. Once the questionnaire was ready, it was pretested. Pretesting refers to the testing of the questionnaire on a small sample of respondents to identify and eliminate potential problems (Malhotra, 2010). The pretest conducted in the study is discussed in the next section.

## 3.6 Assessment of Questionnaire Validity

Content validity was undertaken to ascertain whether the content of the questionnaire was appropriate and relevant to the study's purpose. Content validity of the questionnaire indicates whether the content reflects a complete range of the attributes under study and is usually undertaken by seven or more experts (DeVon et al., 2007; Pilot & Hunger, 1999). Content validity of the questionnaire for this study was examined through the following three steps as recommended by Cavana, Delahaye, and Sekaran (2001). Firstly, the origins and history of each of the items were reported. Most of the questionnaire items were used and verified by prior researchers. Since the items from various studies were combined and new items for social media usage were developed, additional validity assessment like expert judgment validity is needed.

Once the research model was chosen through interviews and literature review, eight purposely chosen experts were asked to review the draft of questionnaire items to ensure whether it was consistent with the constructs. Among the eight reviewers, three were academicians in the field of information systems and five were practitioners whose organizations were currently using social media. Each reviewer independently rated the relevance of each item of the constructs using a 4-point Likert scale (1=not relevant, 2=somewhat relevant, 3=relevant, 4=very relevant). The Content Validity Index (CVI) was used to estimate the validity of the items ((Lynn, 1996).

According to the CVI index, a rating of three or four indicates the content is valid (Lynn, 1996). For example, if five of eight content experts rate an item as relevant (3 or 4) the CVI would be 5/8=0.62, which does not meet the 0.87 (7/8) level required, and

thus indicates the item should be dropped (Devon et al., 2007). Therefore, only one item was deemed to be invalid and dropped because it yielded CVI of 6/8=0.75. The item is: "We may not retain our important customers without social media" (Institutional pressure – Coercive pressure)

All the items developed for the social media usage construct were valid with CVIs ranging from 0.87 (7/8) to 1.00 (8/8). Similarly the items of all the other constructs used in the study were found to be valid and retained for further investigation.

The next assessment is to check reliability. Reliability refers to the extent to which a scale produces consistent results if repeated measurements are made (Malhotra, 2010). To examine the reliability of the questionnaire, a pilot study was carried out. The questionnaire was distributed to SMEs that are using social media. The organizations that are using social media were identified by browsing the organizations' website for social media presence such as Facebook, Twitter, and Blogs etc.

The online questionnaire was created using Survey Monkey website. The survey link was emailed to the Managers in charge of social media in the organizations after speaking to them via telephone and getting their consent to participate in the survey. Thirty-nine responses were received, and among that, nine responses were excluded as they were incomplete. Therefore, thirty responses were finally included for data analysis.

The questions on variables such as social media usage, social media interactivity, relative advantage, compatibility, cost, trust, top management support, institutional pressure, organization impact, and entrepreneurial orientation of the firm along with

some firmographic questions were included in the questionnaire. The data received, were analyzed using IBM SPSS software 20.0. There are various methods to access reliability. The most commonly used approach is internal consistency reliability. Internal consistency reliability is used to assess the reliability of a summated scale where several items are summed to form a total score. In a scale of this type, each item measures some aspect of the construct measure by the entire scale, and the items should be consistent in what they indicate about the characteristics. This measure of reliability focuses on the internal consistency of the set of items forming the scale. (Malhotra, 2010).

Cronbach's alpha is one of the methods to access internal consistency reliability, which is used to indicate the extent to which a set of questions can be considered for measuring a particular variable. Cronbach's alpha usually increases when the correlations between the questions increase. So, the elements of each variable must be strongly correlated to have higher internal consistency in the test. Table 3.13 shows that all the variables have high rates of Cronbach's alpha (above the 0.7 level). Therefore, the questionnaire was considered as reliable as suggested by Hair et al. (2006).

**Table 3.13: Reliability of the Variables**

| **Variables** | **No. of items** | **Cronbach's Alpha** |
|---|---|---|
| Social media usage | 13 | 0.918 |
| Usability | 4 | 0.797 |
| Compatibility | 3 | 0.939 |
| Cost efficiency | 3 | 0.822 |
| Relative Advantage | 7 | 0.846 |
| Trust | 3 | 0.941 |
| Top management Support | 4 | 0.905 |
| Institutional Pressure | 6 | 0.928 |
| Organization Impact | 10 | 0.943 |
| Entrepreneurial Orientation | 8 | 0.896 |

After assessing reliability, the final questionnaire was designed and distributed to the organizations that were using social media. After reminders, 174 responses were received, showing a response rate of 26%. The data analysis techniques used in the study are described in the next section.

## 3.7 Data Analysis Techniques Used

Structural equation modeling (SEM) has become one of the most important methods of empirical research, which has been applied in a multitude of areas including psychology (MacCallum & Austin, 2000), management research (Williams, Edwards, & Vandenberg, 2003), and marketing (Baumgartner & Homburg, 1996; Werner Reinartz, Haenlein, & Henseler, 2009). SEM is considered as a second generation instrument for data analysis. It is a mixed methodology which consists of confirmatory factor analysis, regression, and path analysis.

The majority of the first generation techniques can assess only one level of relationship between dependent and independent variables at once. However, SEM is able to handle a series of interrelated research issues in an inclusive and systematic examination by modeling the relationships among several dependent and independent variables concurrently (Gefen, Straub, & Boudreau, 2000). There are two main methods for SEM analysis including covariance analysis and partial least squares (PLS). LISREL, EQS, and AMOS are statistical software which employs covariance analysis. While software like PLS graph and SmartPLS are the statistical software which uses partial least squares.

PLS is a family of alternating least squares algorithms, or ‘‘prescriptions,’’ which extend principal component and canonical correlation analysis. The method was designed by Wold (1974, 1982, and 1985) for the analysis of high dimensional data in a low-structure environment, and it has undergone various extensions and modifications (Henseler, Ringle, & Sinkovics, 2009) . Henseler, Ringle, and Sinkovics (2009) states that PLS has been used by a growing number of researchers from various disciplines such as strategic management (e.g.,Hulland, 1999), management information systems (Dibbern, Goles, Hirschheim, & Jayatilaka, 2004), e-businesses (Pavlou & Chai, 2002), organizational behavior (Higgins, Duxbury, & Irving, 1992), marketing (Reinartz, Krafft, & Hoyer, 2004), and consumer behavior (eg. Fornell & Robinson, 1983).

The popularity of PLS path modeling among scientists and practitioners is rooted in four genuine characteristics (Henseler, Ringle, & Sinkovics, 2009). Instead of solely drawing on the common reflective mode, the PLS path modelling algorithm allows the unrestricted computation of cause–effect relationship models that employ both reflective and formative measurement models (Diamantopoulos & Winklhofer, 2001). PLS can be used to estimate path models when sample sizes are small (Chin & Newsted, 1999). Further, PLS path models can be very complex (ie. consist of many latent and manifest variables) without leading to estimation problems (Wold, 1985).

PLS path modelling is methodologically advantageous to covariance based structural equation modelling (CBSEM) whenever improper or non-convergent results are likely to occur (Krijnen, Dijkstra, & Gill, 1998). Furthermore, with more complex models, the number of latent and manifest variables may be high in relation to the number of observations. Finally PLS path modelling can be used when distributions are highly

skewed (Bagozzi, 1994), or the independence of observations is not assured (Henseler, Ringle, & Sinkovics, 2009).

### 3.7.1 Assessing PLS Path Models

Chin (1998) has put forward a catalog of criteria to assess partial model structures. A systematic application of these criteria is a two-step process, encompassing (1) the assessment of the outer model and (2) the assessment of the inner model. At the beginning of the two-step process, model assessment focuses on the measurement models. A systematic evaluation of PLS estimate reveals the measurement reliability and validity according to certain criteria that are associated with formative and reflective outer model. Fig.3.5 depicts this two-step process.

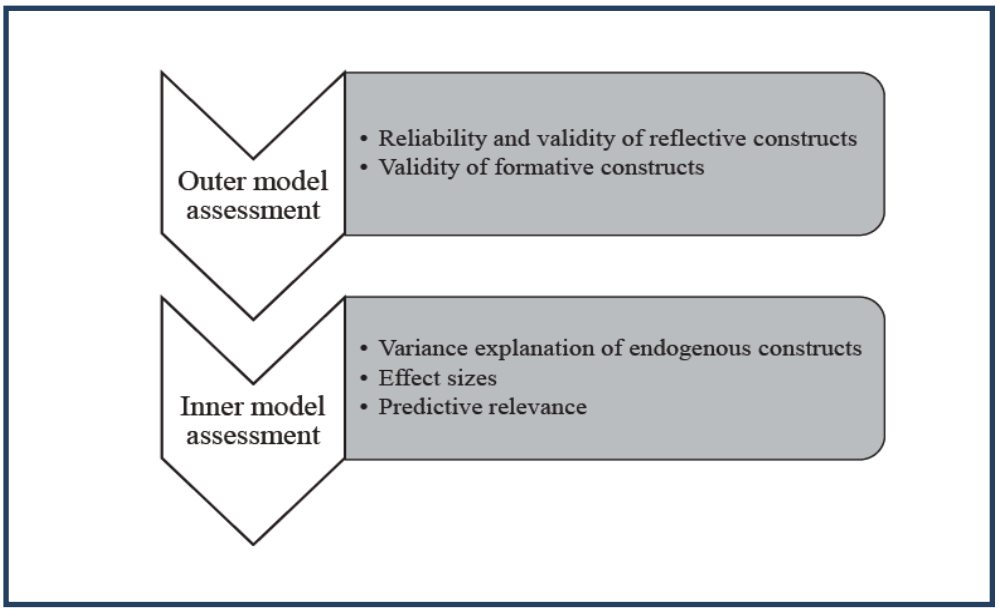


**Figure 3.6: Two stage process of PLS**

Source: Henseler, Ringle, and Sinkovics (2009)

Table 3.14 explains the various criterions for assessing reflective measurement model such as composite reliability, indicator reliability, average variance extracted (AVE), Fornell-Larcker criterion and cross loadings.

**Table 3.14: Assessing Reflective Measurement Model**

| Criterion | Description |
|---|---|
| Composite reliability | The composite reliability is a measure of internal consistency and must not be lower than 0.6 |
| Indicator reliability | Absolute standardized outer (component) loadings should be higher than 0.7 |
| Average variance extracted (AVE) | The average variance extracted should be higher than 0.5. |
| Fornell – Larcker criterion | In order to ensure discriminant validity, the AVE of each latent variable should be higher than the squared correlations with all other latent variables. Thereby, each latent variable shares more variance with its own block of indicators than with another latent variable representing a different block of indicators. |
| Cross-loadings | Cross-loadings offer another check for discriminant validity. If an indicator has a higher correlation with another latent variable than with its respective latent variable, the appropriateness of the model should be reconsidered. |

Source: Henseler, Ringle, and Sinkovics (2009)

For formative measurements, Bollen (1989) and Bagozzi (1994) emphasized that traditional validity assessments and classical test theory does not apply to manifest variables that are used in formative measurement models, and that the concepts of reliability (ie. internal consistency) and construct validity (ie. convergent and discriminant validity) are not meaningful when a formative mode is employed. There are various criteria to assess formative measure such as nomological validity, external validity, significance of weight, and multicollinearity. Table 3.15 explains the criterions to assess formative measurements.

**Table 3.15: Assessment of Formative Measurement Model**

| Criterion | Description |
|---|---|
| Nomological validity | The relationships between the formative index and other constructs in the path model, which are sufficiently well known through prior research, should be strong and significant. |
| External validity | The formative index should explain a big part of the variance of an alternative reflective measure of the focal construct. |
| Significance of weights | Estimated weights of formative measurement models should be significant. |
| Multicollinearity | Manifest variables in a formative block should be tested for multicollinearity. The variance inflation factor (VIF) can be used for such tests. As a rule of thumb, a VIF greater than ten indicates the presence of harmful collinearity. However, any VIF substantially greater than one indicates multicollinearity. |

Source: Henseler, Ringle and Sinkovics (2009)

### 3.7.2 Assessing the Structural model

Reliable and valid outer model estimations permit an evaluation of the inner path model estimates. Table 3.15 explains the criteria for assessing the structural model. The structural model can be evaluated using the values of $R^2$ and estimation of path coefficients. More in-depth analysis can also be done by assessing the values of effect size $f^2$ and predictive relevance $Q^2$ and $q^2$. Apart from these, the non-parametric bootstrap (Davison, Hinkley, & Young, 2003; Efron & Tibshirani, 1993) procedure can be used in PLS path modeling to provide confidence intervals for all parameter estimates, building the basis for statistical inference. In general, the bootstrap technique provides an estimate of the shape, spread, and bias of the sampling distribution of a specific statistic. Bootstrapping treats the observed sample as if it represents the population. The procedure creates a large, pre-specified number of bootstrap samples (eg. 5,000). Each bootstrap sample should have the same number of cases as the original sample. Bootstrap samples are created by randomly drawing cases with replacement

from the original sample (Henseler, Ringle, & Sinkovics, 2009). Table 3.16 shows the criterion to assess the structural model.

**Table 3.16: Assessment of Structural Model**

| Criterion | Description |
|---|---|
| $R^2$ of endogenous latent variables | $R^2$ values of 0.67, 0.33, or 0.19 for endogenous latent variables in the inner path model are described as substantial, moderate, or weak by Chin (1998). |
| Estimates for path coefficients | The estimated values for path relationships in the structural model should be evaluated in terms of sign, magnitude, and significance (the latter via bootstrapping). |
| Effect size $f^2$ | $f^2 = (R^2_{included} - R^2_{excluded})/(1 - R^2_{included})$; values of 0.02, 0.15, and 0.35 can be viewed as a gauge for whether a predictor latent variable has a weak, medium, or large effect at the structural level. |

Source: Henseler, Ringle and Sinkovics (2009)

For this study, the data analysis was performed using SmartPLS 2.0 software. The PLS technique is used as the study contains both formative and reflective constructs and also the sample size is small.

## 3.8 Summary

This chapter presented the research model and the hypotheses of the study. The research design of the study explained the research paradigm associated with the study, the research approach used, and also methodology that was adopted in the three phases of the study. Moreover, the samples, unit of analysis, questionnaire design, and the assessment of questionnaire validity were also elaborated. Finally, the data analysis technique used in the study was explained in detail. The various criterions needed to be followed during the assessment of measurement and structural model when using Partial Least Squares method was also elaborated. The next chapter describes the process of data analysis, and the results of the three phases of the study are reported in detail.

# CHAPTER 4 DATA ANALYSIS

## 4.0 Introduction

In this chapter the results of all the three phases of the study are reported. In the first phase, the results of the web content analysis are presented. The analysis was based on disclosure, information dissemination, and interactivity framework. In the second phase, the results of the interviews were discussed. The interviews were conducted among six organizations that were using social media. Constant comparison method was used to identify the themes of factors that influence social media usage, the various purposes of social media use, and social media impact on organizational performances. Finally, the Partial Least Square (PLS) technique was used to analyze the survey data that was collected via online survey from 171 organizations that are using social media. The measurement model was first assessed using the various criteria such as composite reliability, convergent validity, discriminant validity and factor loadings. Then the structural model was assessed to test the hypotheses using path coefficient and t-values. The results of $R^2$ and $f^2$ were also reported.

## 4.1 Phase I – Web Content Analysis

Phase I used the web content analysis method to gather data from organizations' website and their social media pages. Web content analysis was conducted to identify the organizations that were using social media, the social media tools used by them, and the level of usage. As discussed earlier in section 3.3.3.1, the first step was to get the list of organizations operating in Malaysia. The list of 9918 organizations from various sources was obtained, but only 7910 were included for further analysis. Others were

excluded due to various reasons such as having its website reported as 'not found', link broken etc. Among the 7910 organizations browsed, it was found that only 664 organizations were using some kind of social media for their business purposes. The number of organizations browsed and the number of organizations with social media presence are summarized in Table 4.1.

**Table 4.1: Number of Organizations with Social Media Presence**

| **Sources** | **No. of organizations' Website's browsed** | **No. of Organization with Social media Presence** |
|---|---|---|
| Top 1000 directory, Public listed Companies | 1934 | 144 |
| MSC status companies | 2339 | 137 |
| SME Corp Malaysia | 2295 | 132 |
| MARTRADE | 1342 | 251 |
| Total | 7910 | 664 |

The presence of social media was identified from the organization's website homepage. Following Slover-Linett and Stoner (2011)'s definition, a social media presence was considered official if linked from the institutional website, directly from the homepage, or from the secondary level of the website (Lovari & Giglietto, 2012). Therefore each of the organizations' homepages was screened for Facebook, Twitter, Blog, YouTube, Flickr, RSS, and other social media sites presence. The presences of these tools were identified by their symbol or icon, for example the Facebook icon represented by either a symbol "f" or the tagline "Find us on Facebook". Some examples of social media tools' appearances in the corporate websites can be seen from the Figure 4.1 and 4.2.

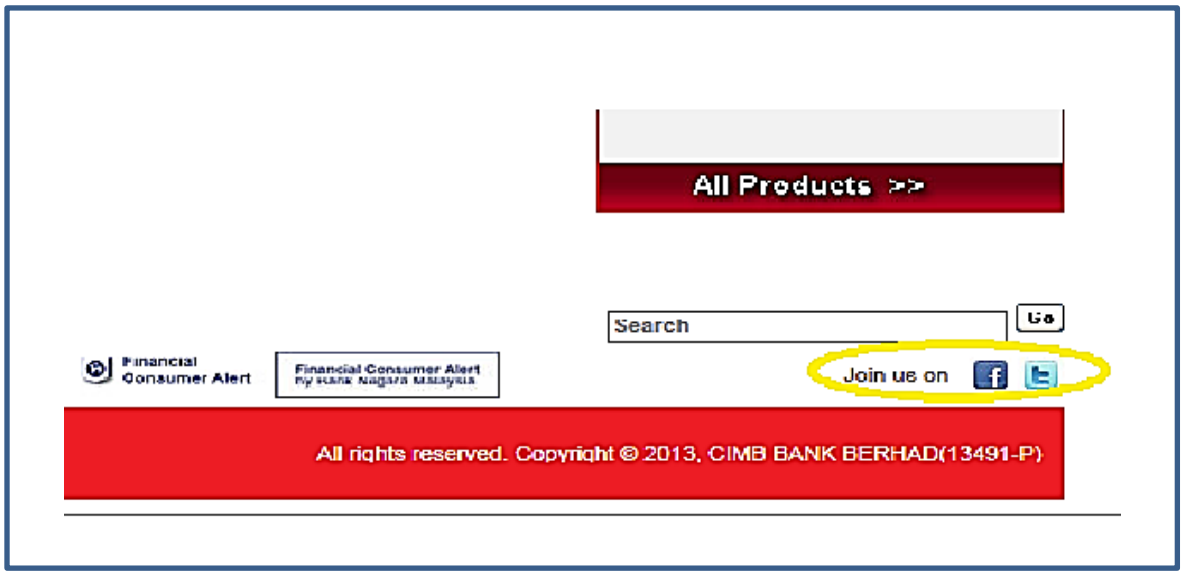


**Figure 4.1: Social Media Presence on Corporate Websites – Type 1**

Source: www.digi.com.my

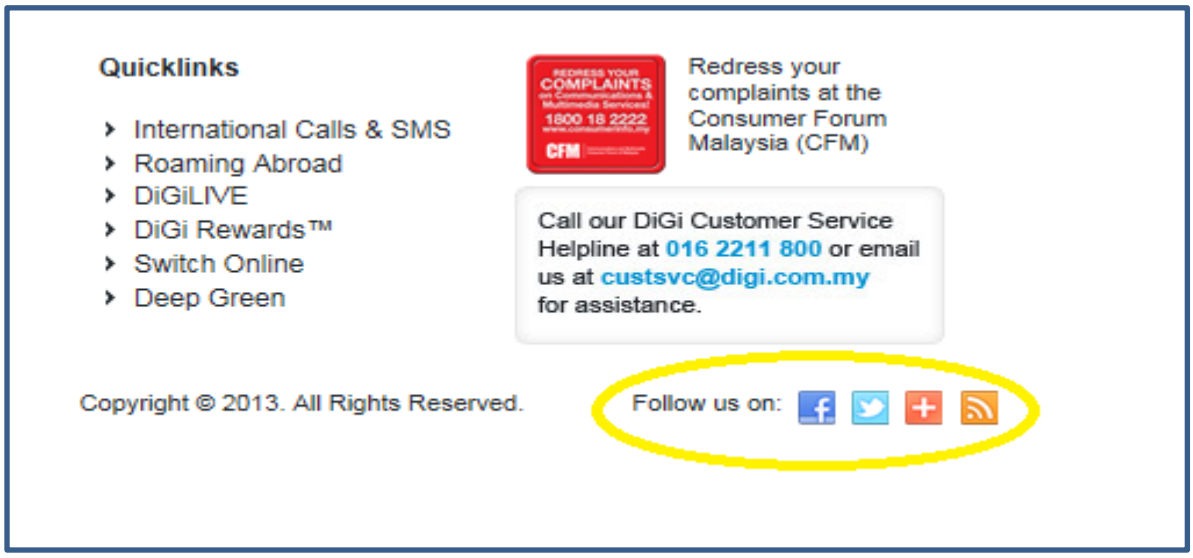


**Figure 4.2: Social Media Presence on Corporate Websites – Type 2**

Source: www.cimbbank.com.my

Among the 664 organizations that were using social media, it was found that Facebook was the most popular social media tool used by many organizations. Nearly 91% of the organizations were using Facebook, followed by Twitter which was used by 49% of the

organizations. 25% of organizations were using Google+. About 14% of the organizations posted videos and photos on YouTube and Flickr. Nearly 14% of the organizations had their own corporate blog. About 5% of the organizations use RSS feed, and 3% of the organizations use other social media tools like Instagram, LinkedIn etc. Figure 4.3 shows the various social media tools used by organizations.

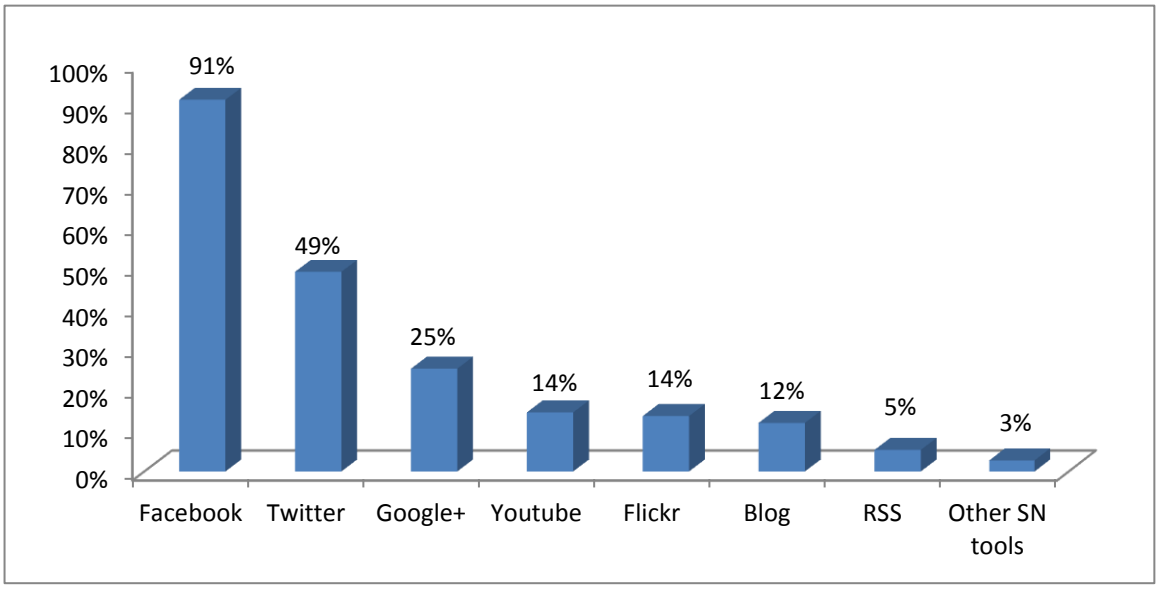


**Figure 4.3: Social Media Tools Used by Organizations**

After identifying the organizations that were using social media and the various social media tools, more in-depth analysis was carried out on the organizations' Facebook pages as this was the most widely used social media tool among organizations in Malaysia. The organizations' Facebook pages were analyzed in order to find the level of usage based on the disclosure, information dissemination, and interactivity framework (Waters et al., 2009; Men and Tsai, 2011).

Among the organizations that were using social media, 606 organizations were having Facebook presence. Among that only 567 organizations were included for in-depth

analysis; other organizations use a personal profile which had a different feature from official business pages. The results showed that in Malaysia, organizations started to use Facebook from 2008. However only 3% of organizations started to use Facebook in the year 2008, then there was an increase in 2009 where nearly 20% of the organizations started to use Facebook. The analysis also showed that most of the organizations started to use Facebook in the year 2010 (32%) and 2011(30%). About 14% of organizations started to use Facebook in the year 2012 (Figure 4.4).

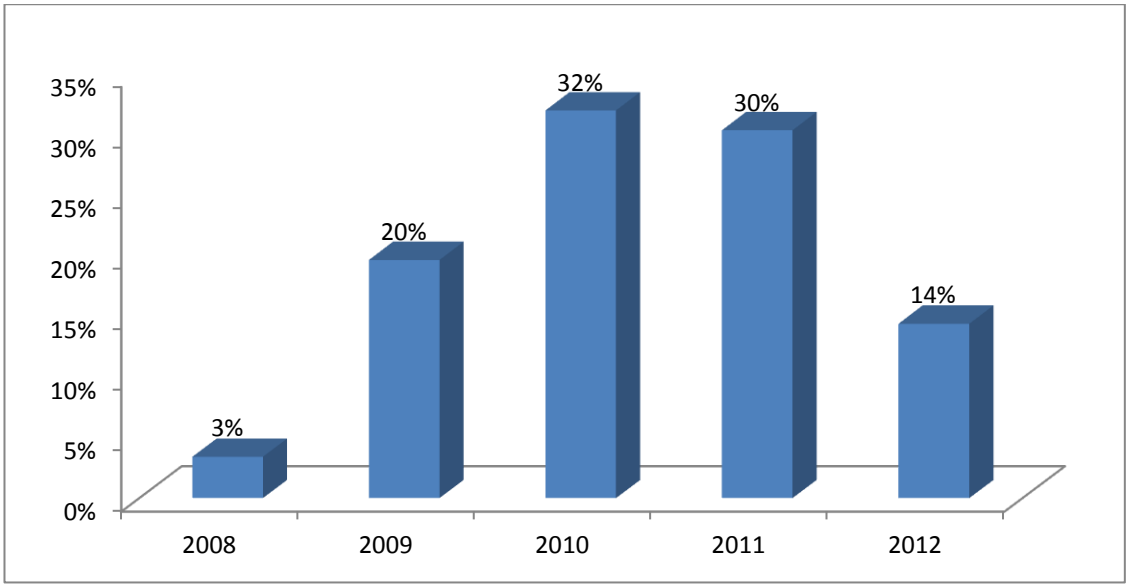


**Figure 4.4: Facebook Usage Started in Organizations**

Secondly, the number of likes on the Facebook page was analyzed. 'Like' is defined as a way to give positive feedback or to connect with things users care about on Facebook (Facebook, 2011). Like and comment options in Facebook are the most heavily used features on the site (Ayu & Abrizah, 2011; Whitnah, 2010). The results showed that nearly 29% of the organizations have likes between 100 and 1000; followed by 25% of organizations between 1000 to 10000 likes and 16% of organizations had likes between 10000 and 100000. Figure 4.5 shows the number of likes in organizational Facebook pages.

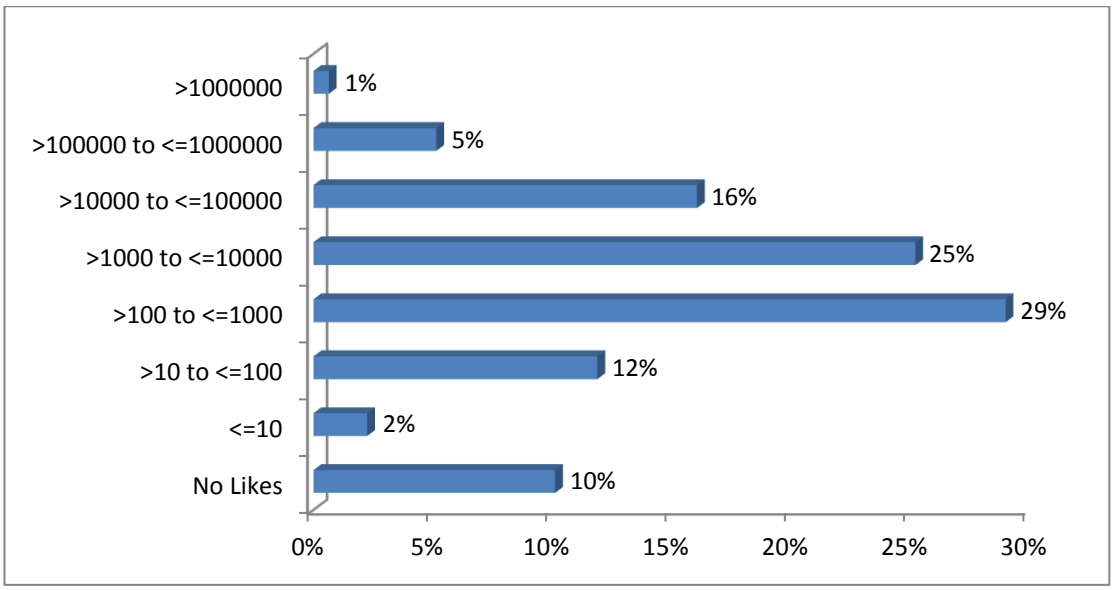


**Figure 4.5: Numbers of Likes**

After analyzing the number of likes, organizations' uses of relationship cultivation strategies were investigated. All three strategies such as disclosure, information dissemination, and interactivity/involvement appeared on the corporate Facebook pages. However, the frequencies of certain strategies were higher than others. Under the disclosure strategy, logo, url to websites and description about the organizations were commonly used by most of the organizations. Nearly 89% of the organizations had the company's logo on their Facebook page. About 84% of the organizations had the url to their corporate website, and about 74% of the organization had the description about the organization.

Regarding the mission statements and history, about 40% of the organizations included the mission statement in the Facebook page and about 21% of the organizations' Facebook pages displayed the history of the organization. The information about the person in-charge of Facebook administration and the privacy rules for the usage of the organizations' Facebook pages were minimal. Only 6% of the organizations had the administrators listed on the page and just 3% of the organizations had mentioned about

the rules for posting information on the corporate pages under house rules. Figure 4.6 shows the various features used by organizations under disclosure strategy.

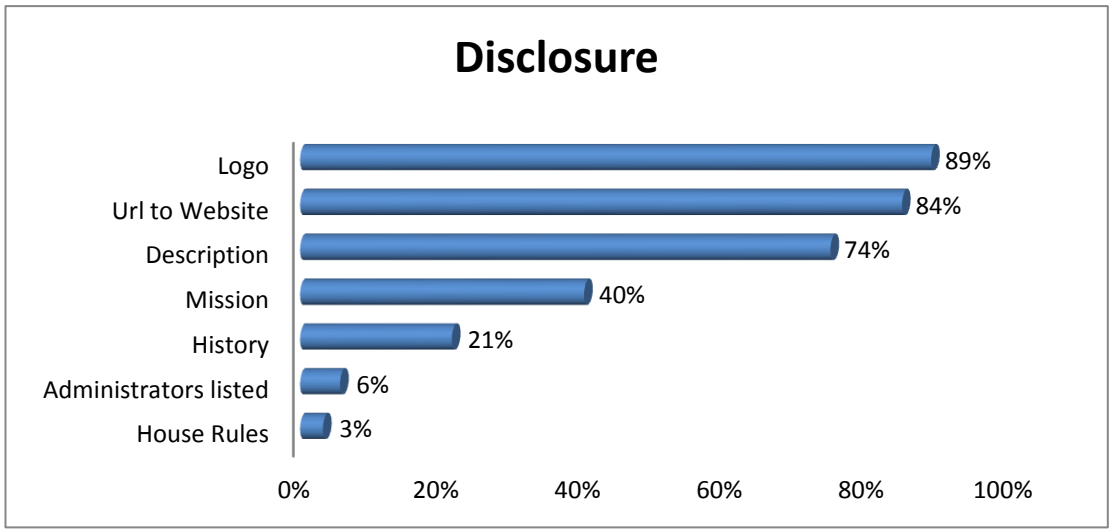


**Figure 4.6: Disclosure Strategies on Organizations' Facebook Page**

Next, under information dissemination strategy, most of the organizations posted items and photos on their pages. Nearly 89% of the organizations had posted photos and 88% of the organizations posted items on its pages, followed by 69% of the organizations which had links to their favorite pages. About 46% of the organizations had news links and 39% of the organizations posted video files on its pages. Moreover, 32% of the organizations had posted campaign summaries and only 17% of the organizations had posted announcements and press releases on its corporate Facebook pages (Figure 4.7).

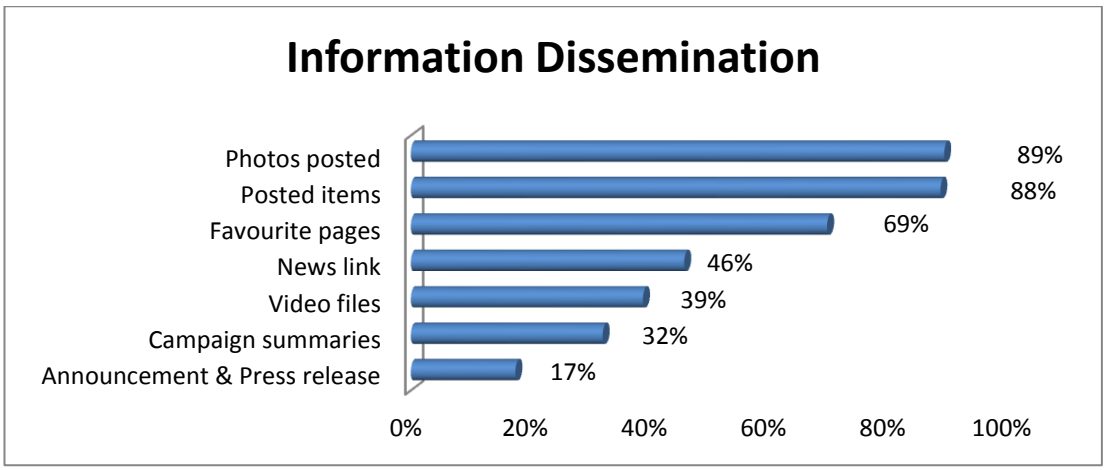


**Figure 4.7: Information Dissemination Strategies on Organizations' Facebook Page**

With respect to interactivity or involvement strategy, the intrinsic attributes of social media such as the sharing of features for publics, commenting opportunities, and navigation to external media content appeared on most corporate Facebook pages (refer Figure 4.8). About 89% of the organizations have sharing and commenting features on their pages and about 80% of the organizations had hyperlinks to external content. In terms of creating a complete interactivity with public, nearly 58% of the organizations responded to user posts. More than half of the organizations that were analyzed had provided contact information such as telephone numbers (54%) and email address (51%) on their Facebook pages. Apart from these, about 39% of the organizations had displayed calendars of future events and only 4% of the organizations had the store feature where it sold products and services via social media pages.

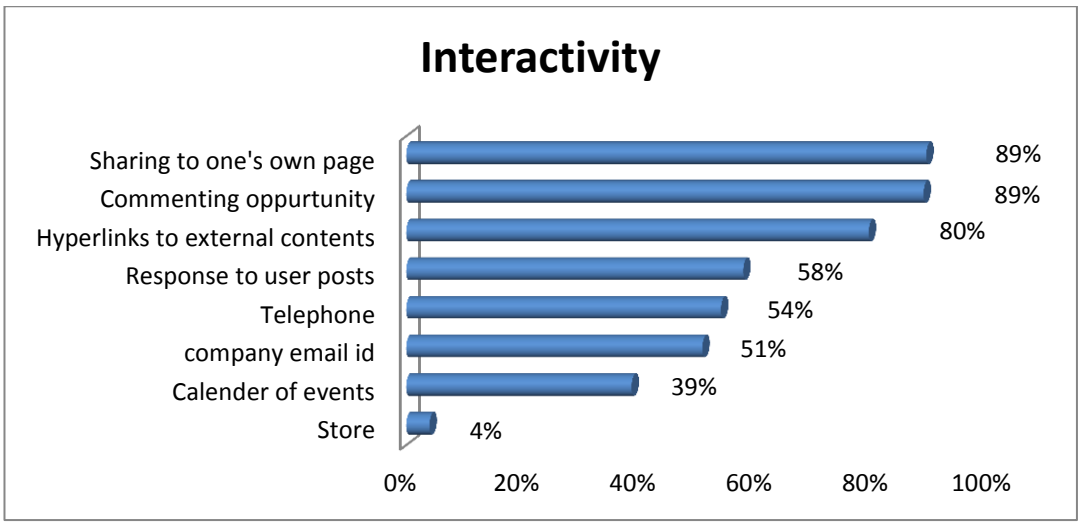


**Figure 4.8: Interactivity Strategies on Organizations' Facebook Page**

Overall, the average use of all the strategies showed that interactivity/involvement strategies features (58%) are widely used by organizations in Malaysia, where the organizations provided various interactive features to the public and also responded to user comments. Next, the information dissemination strategy (54%), which addresses the needs, concerns, and interests of publics while disseminating organizational information, appeared frequently in organizations' Facebook pages. Kent and Taylor (1998) stated that such information allows the public to engage with the organization as informed partners (Men & Tsai, 2011). Finally, only an average of 45% of the organizations discloses organizational information to the public which is less compared to the other two strategies. Table 4.2 shows the frequency and percentage on the usage of various features related to the three strategies.

**Table 4.2: Strategies Used in Organizations' Facebook Pages**

| Strategy | Frequency | Percentage |
|---|---|---|
| **Disclosure** | | |
| Description | 465 | 74% |
| History | 133 | 21% |
| Mission | 249 | 40% |
| Url to Website | 528 | 84% |
| Logo | 554 | 89% |
| Administrators listed | 35 | 6% |
| House Rules | 20 | 3% |
| **Average** | | **45%** |
| **Information Dissemination** | | |
| Posted items | 553 | 88% |
| Announcement & Press release | 109 | 17% |
| Campaign summaries | 200 | 32% |
| News link | 285 | 46% |
| Photos posted | 557 | 89% |
| Video files | 242 | 39% |
| Favourite pages | 434 | 69% |
| **Average** | | **54%** |
| **Interactivity/Involvement** | | |
| Commenting opportunity | 556 | 89% |
| Sharing to one's own page | 559 | 89% |
| Response to user posts | 362 | 58% |
| Company email id | 318 | 51% |
| Telephone | 338 | 54% |
| Calendar of events | 242 | 39% |
| Hyperlinks to external contents | 497 | 80% |
| Store | 25 | 4% |
| **Average** | | **58%** |

### 4.1.1 Summary of Phase I

The content analysis results showed that social media tools that are currently used by the organizations are Facebook, Twitter, YouTube, Flickr, Blogs, and RSS. Other social media tools like LinkedIn, Foursquare etc., are also used but limited. Among the tools that are used by organizations, the most commonly used is the Facebook. The organizations in Malaysia started to use social media from 2008 but many organizations only began using Facebook in the year 2010 (32%) and 2011 (30%). The results also

revealed that among 567 organizations that have an official Facebook page, nearly 29% of organizations have likes between 100 and 1000, 25% of organizations had likes between 1000 to 10000, and 16% of organizations had likes between 10000 and 100000.

Moreover regarding the level of usage based on the relationship cultivation strategies, the average use of all the strategies showed that interactivity/involvement strategies features (58%) are widely used by organizations in Malaysia, followed by information dissemination (54%), and disclosure strategy feature (45%). The results of the Phase 1 helped to identify the organizations that are using social media effectively in order to conduct interviews during the Phase II of the study. The next section presents the results of Phase II, where the findings of the interviews are reported.

## 4.2 Phase II

In Phase II of the research, in-depth semi- structured interviews were used to collect data. The intensity sampling technique was used to select the organizations that were using social media effectively. Six organizations were selected with high social media usage, and semi-structured face-to-face interviews were conducted. The Senior Manager or the Head of Social Media Department was interviewed. After collecting data from interviews, the process of unitizing and categorizing were carried out to make sense of the data and to identify the appropriate themes. The constant comparison method was used for the creation of categories.

The main purpose of the interviews was to develop the instrument to measure usage by identifying the various purposes of social media usage. To identify the factors that

influence the organizations to use social media and the benefits associated with social media usage. The interview results also discuss some of the issues associated with social media such as social media success measures, reputation management, productivity problems and future of social media. The backgrounds of the organizations that were interviewed are explained briefly in the following paragraphs followed by the analysis of the interview data.

### 4.2.1 Organizational Background

This section discusses the background of each organization and also the background of representatives who participated in the interviews.

Organization A is the Asia's leading Airline Company. Organization A has a route network that spans over 20 countries including Indonesia, Malaysia, and Thailand, and with domestic and international routes, primarily from Kuala Lumpur to Australia, Bangladesh, Brunei Darussalam, Cambodia, the People's Republic of China, Iran, India, Japan, Laos, Myanmar, Nepal, New Zealand, Philippines, South Korea, Singapore, Sri Lanka, Taiwan and Vietnam. Organization A started to use social media in 2008; they started with the blog and then moved on to Facebook and Twitter. In countries like China where Facebook is not allowed, they have a presence in the local Chinese social media channels. The organization also uses support platforms such as Instagram, Flickr, and YouTube. The respondents for the study were the Senior Manager of Social Media Commercial and the Executive from the social media team.

Organization B is a Malaysian mobile network operator. It provides a variety of mobile communication products and services. The organization has total subscribers of 13.95

million as of December 2010. The organization primarily operates across Asia-pacific regions. Organization B started to use social media in 2009; it was initiated by the Digital team of Marketing Department. The organizations' primary channels are Twitter, Facebook, and YouTube. They also have a company forum. The respondent for the study was the Head of Web Sales and Services, who is currently managing the teams that manages the organizations' website, customers' self-service technologies, organizations' ecommerce, and social media activities. He is qualified with a degree in computer science and has more than 10 years' work experience with technology organizations. Previously, he worked for an online games company, and later worked at another famous Malaysian telecommunication service provider before joining organization B.

Organization C is a regional universal bank operating in high growth economies in ASEAN. They are an investment bank and also have the widest retail branch network across the region, with over 1,100 branches. Organization C has presence in 16 countries, covering ASEAN and major global financial centers. With over 40,000 employees, the bank operates in 9 out of the 10 ASEAN countries. It is one of the Malaysia's largest financial services providers.

With the idea from the Head of Group Marketing and Communication department, Organization C started to have social media presence in March 2010, where they started with a Twitter account, and in July 2010 they started their Facebook fan page. The organization also has a CEO Blog which is the internal blog to communicate with employees within the organization. Apart from these social media channels, Organization C also post videos about their organization on YouTube. The respondent for the study was the Head of Marketing and Communications Department who was

also the Head of Social Media team with ten years of experience in the banking industry and a degree holder in Psychology and Chartered Accounting.

Organization D is Malaysia's leading automobile manufacturer with 25 years of innovation and exports to over 27 countries. The organization gained a significant international presence bringing their cars to various countries across South-East Asia to the Middle-East, China, South Africa, Australia, and the United Kingdom. Over the years the organizations have increased cost-efficiency, reliability and quality through the use of automation and robotics in its manufacturing processes. Organization D is continuously adopting new innovation in design and creative engineering methods through the launch of its Research and Development facilities. The organization started its presence in social media in June 2011 with Facebook. Social media usage was initiated by the Digital Marketing team which is responsible for all the digital touch points in the organization. The organization also uses Twitter, post videos on YouTube for advertising their products, and an internal forum which is used internally to share knowledge among employees. The Head of Digital Marketing which comes under Group Marketing and Branding Department of the organization was interviewed for the study.

Organization E is an integrated manufacturer and retailer in Gold and Jewelry. It has its outlets in Vietnam and China as well. The group was accredited with ISO in Quality management system for its retailing in jewelry. To date, the group has 52 jeweler retail outlets within 4 major umbrella brands and also their products are exported to Indonesia, Singapore, Thailand, United Arab Emirates, and Europe. Social media presence was established in the organization during mid-2010 with the first presence on Facebook. Later, the organization also started to use other channels such as Twitter and

YouTube. Apart from the general social media tools, the organization also has an online jewelry club where consumers can communicate with the organization online, via email blast, and also by Short Messaging System (SMS). The respondent for the study was the Senior Manager of the Marketing Department who has more than 10 years of work experience and handles the social media division in the organization.

Organization F is one of the government-linked organizations in Malaysia. The airline has more than 100 aircraft, servicing more than 110 destinations across six continents. The airlines operates flights in Southeast Asia, East Asia, South Asia, Middle East, Europe and Australasia. Apart from the airline, through several other subsidiaries, the organization manufactures aircraft parts, offers trucking and cargo transportation services, caters food, provides laundry and dry-cleaning services for airlines and other industrial institutions, and oversees a travel agency. The organization started to use social media in 2009 and it was initiated by the Communication and Media Relations Department. Currently the organization uses Facebook, Twitter, and Blogs to communicate with customers. In 2011, they introduced a social seating plan that allows passengers to pick seatmates before their flight. The plan lets passengers share their social network profiles and photos with other passengers on the same flight. The Senior Manager of Media, Issues and Crisis Management who has more than ten years of experience and also the Senior Executive of Media Relations was interviewed for the study.

### 4.2.2 Social Media Tools Used by Organizations

All the organizations that were interviewed have a Facebook page, followed by Twitter, Blogs, YouTube etc. Organizations started to initiate social media from the year 2008.

Table 4.3 shows the information about the organizations, its representatives who participated in the interview, and the social media tools used by them.

**Table 4.3: Organizations and Social Media**

| Organizations | Industry | Interviewee | Year-Social media initiated | Social media tools used | Facebook Likes |
|---|---|---|---|---|---|
| Organization A | Airlines | Senior Manager of Social media commercial and Social media Executive | 2008 | Facebook, Twitter, Blog, histogram, Flickr, YouTube | 1,616,211 |
| Organization B | Telecommunications | Head of Web sales and services | 2009 | Facebook, Twitter, YouTube | 528,794 |
| Organization C | Bank(Finance) | Head of Marketing and Communications | 2010 | Facebook, Twitter, Blog, YouTube | 650,367 |
| Organization D | Manufacturing | Head of Digital Marketing | 2011 | Facebook, Twitter, YouTube | 40,354 |
| Organization E | Consumer Products | Senior Manager of Marketing | 2010 | Facebook, Twitter, YouTube | 21,919 |
| Organization F | Airlines | Senior Manager of Media, Issues and Crisis management and Media Relations Executive | 2009 | Facebook, Twitter, Blog | 556,725 |

The next section describes the interview findings on the various purposes of social media usage in organizations.

### 4.2.3 Social Media Usage

All the participants from the six organizations discussed about the various purposes of social media usage in their organizations. For instance, Organization A uses social media for various purposes such as branding, marketing, public relations, crisis management, and many more. The participant from Organization A explained the purpose of social media usage as follows :-

*"Social media is used as the voice of the brand; we use it for branding, marketing, public relations, crisis management, even operations such as recruitment. We gather updates from fans, feedback from fans; we want the fans to know that we are listening to them as well... We try our best to fulfil our customers' needs via social media. We use social media for getting customer opinions".*

Organization A also uses social media to get customer feedback, to communicate with customers, to share information with the public, and also for customer service activities. This was explained by the participant of Organization A as :-

*"Well we use Facebook for getting customer feedback by conducting survey like 'Top 10 destinations where you like to go'. Apart from conducting survey for deciding on new services, we also use Facebook for having good engagement with customers. Facebook is used for corporate social responsibility activities, which increase the organization's image. We also use Facebook for serving customers effectively. We provide updates to customers via our Facebook. We get lot of information from our fans via Facebook comments …".*

Moreover, Organization A also agreed that they review their competitors' social media pages to get information about them. The participant stated that …

*"Yes, we do monitor competitor's Facebook page, we do follow our competitors' Twitter account".*

Similarly, Organization B uses social media for various purposes such as marketing, to conduct market research, and for customer service activities. The participant from organization B stated the usage of social media in their organization as follows :-

*"We use Social media in two ways, as we have two Twitter accounts (XA and XB). XA is the primary mode of customer engagement, there are 64000 followers. We use it mainly for conveying marketing messages (advertising and promotion), to conduct general survey etc. XB is used for customer service; we operate from 9am to 12 midnight. This is another channel for customers to interact with us directly if they need anything specific …".*

Apart from main usage, the Organization B also uses social media for branding, to communicate with customers, to get customer information, and for crowd sourcing. This was stated by the participant as follows :-

*"As a company we have two brands; company's post-paid and prepaid brands, so we have two Facebook fan pages as well. We use Facebook and Twitter for branding, promotion, to communicate with customers. .....through social media we direct the customers to the right place to solve their problems.... We get information about customers as Facebook gives a lot of analysis about customers such as demographics, age groups, where they come from, which type of communication work better for which customers. We also use social media for crowd sourcing; we will ask customers' opinions on certain aspects …".*

However Organization B does not use social media for new product development and it was mentioned by the participant as :-

*"It is not to that level now, but in the future we could try that. But we ask customers' opinions after initiation of product and services. Social media is used to get customer feedback ....".*

Similar to Organization A, Organization B also uses social media to search on competitor information. The participant claimed that :-

> *"We become the fan of our competitor Facebook page and followers in Twitter and it will tell you what they are doing ...."*.

Furthermore, Organization B uses social media to improve the organization's image by posting positive information and their involvement on social service activities on the social media pages. As the participant stated :-

> "*We also use social media in humanizing our company, it goes beyond sales and services, it explains to customers what good things we do for Malaysians, sharing information with customers. For example, we do a sports ambassadors program, we have our organization's scholarships for Undergraduate students etc., and a majority of scholarships is for our post-paid customers. All these information will be posted and shared in social media"*.

Social media is also used extensively by Organization C. Organization C uses Twitter for customer service activities whereas Facebook is used for communicating with customers. Social media is also used for advertising and conducting campaigns. From the interview it was understood that Organization C has integrated both traditional and social media and uses both to complement each other. This was explained by the participant from Organization C as :-

> *"We started with Twitter first and we focused on customer service and the other things for which we can use Twitter is to push information, but we don't want to start a presence by pushing spam or being trolley promotional, if we start pushing information the customers won't follow us. We needed to make sure that they follow us for a reason. Our customers started following us on twitter so that they can get help or assistance on banking products and services queries. But*

*the time when we started the Facebook page it was more like two-way communications. Social media was not only used for customer service but we can also launch campaigns. We ran a few campaigns which were in line with the offline campaign. Example was our deposit campaign. We ran promotional activities, contests as well. Recently we did our debit card launch, we used Facebook to invite people for the launch....we integrate quite a lot between online and traditional media. We basically use traditional media to promote our online presence, like using print ads to promote the organization's Facebook presence, and asking Facebook lovers to open an account with the bank etc., this was more like a positioning strategy, so the market will look at us as a progressive bank, a bank that is on Facebook and Twitter".*

A step further, Organization C also uses social media for sales activities. In addition, social media is also used to search for information about customers, competitors, and the market in general which is explained by the participant in the following paragraph :-

*"It's really for customer intelligence or business Intelligence, we do monthly reports about customers' insights, and what are customers saying about us? What are their problems? And what are they happy about our bank, and we feed this information to different units so that they can fix their problems and if they are not doing well, then they can improve themselves. We also do lot of research and get information about our competitors and market using social media ...".*

Moreover, getting feedback from customers is one of the major usages of social media in Organization C :-

*"Whether we ask or not the opinion comes from the customers via Facebook; either it's a compliment or feedback which we use to improve or a real complaint where we need to fix a problem ..."*.

The participant also added that social media is used for the organizations' positioning strategy and to get new customers and for sharing information with the customers. She explained that :-

*"Overall I think it's a positioning strategy to use social media, from our perspective it helped to position us as a more innovative, transparent and listening to customer bank. We are also getting new customers from social media, we can quantitatively say this through one of our XXX youth account, and we track it through their account ... We use social media for information sharing, and ask our customers to tell their friends about our company's special promotions, and then they get points. It is basically getting people to talk about our brand, and incentivising them to share information about our company".*

When asked about the success of social media usage in Organization C, the participant said the social media usage in their organization is progressing well :-

*"From the fan growth perspective we have over 650,000 fans for Facebook across the region; it's quite huge. Now we started to use social media for more purposes. I think business also started to see value in listening to customers, or seeing value in trying to fix the problems".*

Similarly, social media in Organization D is used for various purposes such as advertising and promotion, to provide information to consumers, to get feedback from

them. It is also used as part of customer service activities. This was explained by the participant from Organization D as follows :-

> *"We use social media to post photos, latest news, brand campaigns, advertising, and promotion; we have standard operating procedures, guidelines to use social media. We don't use social media for direct customer service activities but social media is used as a part of the customer service. If our customers ask basic questions on our Facebook page then we answer it or else we direct them to the right people. Generally when you look at our company's Facebook, the sentiments are quite positive. As long as you address their concern, by immediately responding to them then you get more positive comments from your fans. Apart from that, most of our customers are consuming information about our company via social media. And we are consuming information about our customers via social media. It allows us to share information with customers. Customers know about our company through Facebook. It builds good relationship with customers …".*

Furthermore like other organizations, Organization D also uses social media for collecting competitors' information, as the participant stated :-

> *"We do see what our competitors do, I personally subscribe to all competitors' social media page. We do have a social media monitoring platform, currently it is very basic through which we know information such as the number of fans they picked up, why and how they promote people to join their Facebook page. This year we are going to look more specific and conduct a detailed search on our competitors, we can subscribe to monitoring services, then we can look at what others are doing, so that we can leverage on whatever information we have*

*... We are now focusing more to improve positive brand sentiment, promote word of mouth etc. and to give content to customers ...".*

Next, Organization E from the consumer product industry uses social media for advertising and promotion, to build customer relations, for customer service activities, and to provide information about their business to customers. As the participant said :-

*"Social media in our organization is used for advertising & promotion, branding, customer service, building relationships with customers. We also use social media for educating customers about jewelry business ...."*.

The participant from Organization E also added that the main use of social media is to make their brand popular, and to get new customers. Social media is also used to search for competitors' information. The participant from Organization E claimed that :-

*"Social media is mainly used to gain popularity, build new customers especially the youngsters because gold businesses traditionally deal with mid-aged customers. Usually only these people can afford to buy gold and diamond jewels. Facebook can help to get young customers as well. We also use social media to give information about our products and also share the information about various activities…. By looking at our competitors' Facebook page, we also get information about them, their production, promotions, and advertisements etc.".*

Similarly, Organization F from the airline industry also uses social media to a great extent. They use it for marketing, to provide information to the public about the organization and its products. Social media is used to receive feedback from customers

and helps to build good relationships with customers. Furthermore it is also used for branding. As the participant from Organization F stated :-

> *"Social media in our organization is mostly used for marketing (advertisements and promotions), and also post updates on the company, products, and services ... we get customer feedback, views from customers about their experience either good or bad, so it helps in building relationship with customers. It also helps in making the brand more prominent ... our finalized products and services are announced through traditional and social media ...".*

Moreover Organization F uses social media to acquire new customers and for sales activities as well. The participant stated :-

> *We are getting new customers via XXXaaa program. XXXaaa is an application on Facebook where the customers have to download the application if they want to use it. They can book flights and check in, share fly details with friends and ask whether they are also flying on the same flight ... As this program via social media is also used for sales activities, we are selling our service at the same time it also increases membership for our loyalty program. The program encourages customers to become members so they get additional points when they use the XXXaaa service ...".*

As mentioned by other organizations, Organization F also uses social media to search for competitor information and share information with the customers. The participant agreed that :-

> *"We do competitor information search just to keep us updated ... Every now and then if there is any news from a media expert or news article in the newspaper we share it in the Facebook with customers, which encourage customer*

*engagement. More customer engagement helps us to get comments both positive and negative … If we answer the question promptly, then customers are more comfortable with us. And it gives them the confidence that this company is effective and good in responding …".*

Based on the above descriptions on the organizations' usage of social media, a number of themes on social media usage were identified. Themes derived from the six organizations were compared for similarity and differences using constant comparison method. Themes identified from the interview data of six organizations on various purposes of social media usage are listed in Table 4.4.

**Table 4.4: Themes for Social Media Usage**

| Organization A | Organization B | Organization C | Organization D | Organization E | Organization F |
|---|---|---|---|---|---|
| Branding, Marketing, PR, crisis management, recruitment, updates and feedback from customers, survey, customer engagement, CSR activities, Competitor Social media page, Customer service, Customer information | Customer engagement, advertising and promotion, survey, customer service, branding, communicate with customers, information about customers, crowd sourcing, customer feedback, information about competitors, humanizing our company, information sharing with customers | Customer service, positioning strategy, campaigns, listen to customers, to drive sales, marketing reports, customer opinion, feedback, getting new customers, information sharing, branding, word-of-mouth, research, information about competitors, market and customers. | Brand campaigns, advertising and promotion, customer service, information about our company, information about our customers, build relationship with customers, information search about competitors, and promote word of mouth. | Advertising and promotion, branding, customer service, building relationship with customers.... information sharing with customers, gain popularity, get new customers, give product information, information about competitors | Advertising and promotions, updates on company information, products and services, customer feedback, build relationship with customers, branding, get new customers, for sales activities, information about competitors, information sharing, customer engagement. |

After comparing the themes derived from the six organizations, the final list of categories were identified as summarized in Table 4.5. The result revealed that social media was used to search for information about customers, competitors, general market. Social media is used for branding, advertising, and promoting the organizations' products and services. Organizations also use social media to conduct market research about existing products and services and also regarding new products and services.

Further, social media is used to reach new customers especially through referrals and recommendation made by existing customers. Social media is also used to build good relationship with customers and to communicate with them effectively. Moreover, social media is used for customer service activities, especially to reply to customer queries and to direct them to the right place to get appropriate service. Finally the interviews results also projected that social media is used to get customer feedback. Organizations use these feedbacks to enhance the quality of their product and services regardless of positive or negative feedbacks.

**Table 4.5: Social Media Usage by Organization**

| | |
|---|---|
| 1. | Social media is used to search for general information |
| 2. | Social media is used to search for competitor information |
| 3. | Social media is used to search for customer information |
| 4. | Social media is used for branding |
| 5. | Social media is used for advertising and promotion of company's product and services |
| 6. | Social media is used for conducting marketing research |
| 7. | Social media is used for getting referrals (Word-of-Mouth via likes, shares and followers in Facebook, Twitter etc.,) |
| 8. | Social media is used to develop customer relations |
| 9. | Social media is used to communicate with customers |
| 10. | Social media is used for customer service activities |
| 11. | Social media is used to receive customer feedback on firms existing product or services |
| 12. | Social media is used to receive customer feedback on new or future product or services |
| 13. | Social media is used to reach new customers |

Next, the findings on the various factors that influenced organizations to use social media are reported. From the interview transcript, various themes on influential factors

were retrieved. After comparing the themes derived from the six organizations, the final list of factors were identified. They are relative advantage, compatibility, cost efficiency, interactivity, top management support, entrepreneurial orientation of the firm, and the external pressure. Each of these factors will be discussed in detail in the next section.

### 4.2.4 Factors Influencing Social Media Usage

Almost all of the six organizations stated the perceived advantage that social media will provide is one of the biggest factors that motivated them to use social media. The participant from Organization A said :-

> *"We wanted a platform to listen to our fans (fan engagement), and social media provides the advantage of two-way communication; it acts as a good survey platform, and also social media helps a lot for crisis management which is an important area for the airline industry. Social media helps to the improve organization image as well".*

Similarly the participant from Organization B claimed that the advantage provided by social media mainly in terms of direct communication with customers attracted them to use social media. The participant stated :-

> *"Social media helps to have direct communication with customers, being a telecommunication company, we have lot of ways to communicate with customers, we can send sms, emails, billboards, direct customer service counters etc. but social media provides the ability and the advantage to have one to one interaction with customers, and this is one of the important factors that made us use social media in our business …".*

The participant from Organization C stated that the perceived value of using social media as one of the important factor that influenced social media usage in their organization :-

> "*What value social media can bring was the biggest question when we wanted to use social media … Value in the form of marketing, positioning, actualization, or realization of sales, returns, listening to customers. All these issues contributed to whether or not an organization actually wanted to embark upon social media. I think all these values were well provided by social media. Even listening to customers is valuable to business. It is the general principle of business that you should listen to customers and social media facilitates this job well ….".*

The participant from Organization D also stated that the value of social media influenced them to use it. He further explained :-

> *"Even though there is a perception that social media becomes a complaint channel, still we want to use it because the benefits outweighs it. The value that social media can provide actually influenced us to use it. Social media helps greatly in brand positioning. Previously it was difficult to get in touch with customers, but now with social media it is easy, as the customers are already there …".*

Similarly, the participant from Organization E also described the advantage of using social media as one of the influential factor in social media adoption. The participant claimed :-

*"Social media are new channels that enable us to communicate with the customers well, market our products in a more innovative and attractive way, and also provide various other benefits to our business which attracted us…".*

The participant from organization F stated that the usefulness of social media had actually influenced their firm to use it. As the participant explained :-

*"Social media is a useful platform, is immediate, the way we can engage with customer is fast, off course there are pros and cons with any technology. But the use of social media is more valuable...".*

The next important factor that was identified from the interviews was top management support which will be discussed next.

Top management support was mentioned as one of the factor that influenced the organization to use social media. Top management support not only influences the initial adoption but also provide greater motivation for continuous usage. The participant from Organization A stated :-

*"Trend in our organization is that all our management team are very good champions of social media, they use it for themselves and they provide full support to use it for business purpose …".*

Similarly, the participant from Organization B said that top management support was the important factor that influenced them to use social media :-

*"Our management provides great support to use social media. Being a technology company, our employees also use social media ... It is the voice of our customers. We receive a million calls from customers but our CEO cannot listen to each*

*customer. However, he can go to our Facebook page and see what customers are talking about, that's why it's a very important direct channel. The top management understands this importance and provide complete support to use it …".*

Furthermore, Organization C stated the importance of top management support to use social media as follows :-

> *"If we have continuous encouragement from the management, then it influences the usage of social media and of course the management will not support if social media doesn't provide any value to organization. The top management understood that we can save cost on advertisement because we are doing it online via social media tools and we can catch many eyeballs, we get actual conversion rate of people becoming customers …".*

The participant from Organization D claimed that top management support is necessary to use social media; however it was not that easy to get the support. The way the top management was convinced to provide support for social media use is elaborated below:-

> *"... We explained to our top management about the advantage of social media, however convincing them went slowly. It was a risk starting social media, as management asked about the negative comments and how to handle it. But we explained them, let's start it as a positive thing, we can share a lot with our customers ... And today we have 40,000 likes and we didn't spend much to get that. We explained to the top management the importance of social media and after looking at the business case of social media, the top management gave us the support and we went on slowly to proceed with social media …".*

Similarly, the other two organizations also said that top management support is one of the important factors that influenced social media usage in their organizations. The next section discusses the importance of entrepreneurial orientation of the firm and its influence on social media usage.

During the interview, the entrepreneurial orientation of the firm was identified as one of important factors that influence social media usage in organizations. Most of the organization mentioned that the innovative culture and risk taking attitude of the organizations have encouraged them to use social media. The participant from Organization A stated :-

> *"We have a culture of listening; you can directly talk to our CEO via social media, no need official appointment or any official letter. They are not afraid to engage. Everybody is very social media savvy here; we have a very open climate. Our management are into young and funky technologies. They love to try new, dynamic technologies and try to use it in a more innovative way …".*

Similarly, the innovative nature of Organization C has helped them to adopt social media easily. Therefore it was stated by the participant from Organization C as :-

> *"We are a very young and innovative organization, there is actually a good appetite to consider and evaluate the value of new technology. We are more open-minded and I think the open-mindedness helped us to accept technology like social media that provide both positive and negative feedback…".*

Even though social media has a negative side, but still the innovative and risk taking nature of the firm helps to evaluate the use of social media in an organization. As the participant from Organization D stated :-

*"I think our management team is very innovative, want to try new technologies in the first hand. Even though there is a perception that social media becomes a complaint channel, still we want to use it because the benefits overweighs the negative aspects of it ...."*.

Moreover the Organization F mentioned that not only innovativeness of the firm influences social media, but the social media itself helps the organizations to be innovative :-

*"Our organization is trying to be more competitive. We wanted to use social media in a different way. I would say that we try to be more innovative than other competitors eg. Our XXXaaa program on Facebook is an innovative program, we try to be the innovator, to be competitive, and social media helps us to be more innovative in terms of marketing, communication, come up with new ways to sell our product ..."*.

Next, the pressure from external sources such as firms' customers, competitors and suppliers are identified as important factors that influence the usage of social media in organizations. Institutional pressures refer to the pressures that emanate from the institutional environments that can induce firms to adopt shared norms and routines. The agents that may exert pressures include a firm's key customers, suppliers, and competitors. Most of the organizations that were interviewed mentioned that external pressure has a great influence on the usage of social media.

When a question was asked about the role of institutional pressure, the participant from Organization B mentioned that institutional pressure such as coercive pressure and mimetic pressures (competitors) influences the adoption of social media. He stated that:-

*"Yes I think it influences. Most of our competitors are attracting the customers with their social media presence. Similarly, our customers want to communicate with us using technologies such as social media so we have to use social media in order to satisfy them and improve ourselves …".*

Similarly organization C also agreed that institutional pressure plays an influential role in social media usage. The participant from Organization C claimed that :-

*"The time when we started to use Facebook, there were 400 million people on Facebook who loved to communicate via social media. It is not that just because people are on Facebook, we have to go for it. We thought if we can talk to such number of persons via their preferred channel, they get an interest to listen to us which would surely provide some benefits. So external environment also comes into consideration when we wanted to use social media …".*

Moreover the Organization E also stated that pressure from external environment is one of the important factors to use social media :-

*"The trend now is social media; people prefer organizations to have Facebook pages so that they can get information, evaluate the products, services and brands through the information they receive from social media sites, which pushes us to use the technology in order to be competitive …".*

Furthermore Organization F that uses social media effectively explains the influence of coercive pressures on social media usage in detail :-

*"... It is a global trend; we have to keep with the trend then can become the member of various global institutions. Social media was actually like this, it is a matter that I equip myself better to be competitive or my partners select other*

*organizations ... Nowadays, all companies whether they like it or not, have to accept certain realities such as IT, social media, and latest innovations and everything, they have to keep abreast in order to be competitive. Even the customers of the younger generation want to engage with companies' that have an application for equipment, systems that they are also familiar with ... .imagine a company with ancient equipment and technology, the younger generation don't want to communicate with these companies because they think it is like a museum. So we have to invest in these technologies, and in our organization social media is successful as the customers appreciate our presence in social media, which means that the customers' interest attracted us to use social media more successfully ...".*

On the other hand, Organization A and D said that the influence of institutional pressure is minimal for the adoption of social media. Furthermore the interview findings also revealed the factors such as interactivity of the technology, cost effectiveness, and compatibility of social media are also considered as important factors that influence social media usage in organizations.

The participant from Organization B claimed that the interactive nature of social media influences organizations to use it. He further stated that :-

*"Social media provides the ability and the advantage to have one to one interaction with customers".*

Similarly the participant from Organization F stated that the interactive and causal mode of communication via social media attracted them to use it. As the participant stated :-

*"Social media is very immediate and interactive; the way we can engage with the customer is fast and very casual, which is one of the attractive factors that motivated us to use social media ...".*

Since social media is not very expensive to adopt, the organizations interviewed stated that the cost effectiveness of social media influenced them to use social media. The following paragraphs explain the influence of cost efficiency on social media usage.

According to the interview findings, the cost effectiveness of social media is one of the factors that influence its adoption in organizations. The participant from Organization B explained that even though social media is an investment but still it is cost effective :-

*"Social media is an investment. Suppose if we put one person to take care of social media then it is an investment. In our organization we have a dedicated social media team. One team is under me who look at engagement and they work with all the internal stakeholders from production and marketing departments and craft the messages etc. We also use third party external agencies to take care of day to day operations and we also have a larger customer service team which handles the Twitter and forum. In our organization we have 15 members in social media, even though it is an investment, still we feel social media is cost effective and also provide great value ...".*

The participant from Organization C also explains about the cost effectiveness of social media as :-

*"Investment in social media is very small. Less than 1% from our overall marketing budget. But at the same time social media is not free, the application development costs money, and the media costs money. Having a team to manage*

*the page is not free. But when we target the right market with social media then it really works well with minimal investment …".*

Similarly Organization D stated that social media is not free of cost, however the investment is less, and cost effective. He stated that :-

*"Social media is free … this is a myth. As for organizational use, we need resources to monitor. At a personal level social media is free but when it comes to brand level we need to set up standard operating procedures and guidelines, we need to set up customer related applications as well. If we run a Facebook contest, then it is not free, it requires resources and a budget to do that. But the investment is very little, we didn't invest lot of money to build social media presence. Surprisingly it went on 'organically'. It grew within a year without investing lot of media budget, we got 'likes' automatically and we shared a lot of content with customers …".*

Similarly Organization E also agreed that social media is cost effective. It was stated by the participant from Organization E :-

*"I think social media provide a very good cost effective way of advertising, but still traditional advertising also plays an important role in our company …" Very small budget, less than 1% of marketing budget for social media …".*

Cost effectiveness of social media was also found as an important factor in organization F. The participant from Organization F stated :-

*"The budget is 5% on social media activities; we feel that social media with less investment do wonders. It is timely (real time), provide spontaneously response*

*to customers which enhance customer service, and also we receive immediate feedback from customers"*.

Apart from the abovementioned factors, compatibility of social media also found to be an influential factor that impacts social media usage in organizations. The influence of compatibility on social media usage is discussed next.

Some organizations said that the social media is well compatible with the organizations' values, beliefs and strategies, for example the participant from Organization A stated :-

*"Social media aligns well with our business goals and values".*

Similarly, Organization E said that :-

*"Social media is simple and is compatible with our organization, so it is easily adopted and used in our business".*

The above paragraphs explain that the compatible nature of social media influence organizations to use it. Therefore from the discussions of the influential factors for social media usage, it is clear that factors such as relative advantage, compatibility of social media, cost effectiveness, interactivity of social media, top management support, entrepreneurial orientation of the firm, and the institutional pressure plays a vital role for the usage of social media in organizations.

Initially from the interview transcripts, various themes were retrieved. By applying constant comparison method, the appropriate factors as mentioned above were identified and named after referring the literature. Table 4.6 shows the various themes that were identified for factors influencing social media usage.

## Table 4.6: Themes for Factors Influencing Social Media Usage

| Factors influencing Social Media Usage | | | | | |
|---|---|---|---|---|---|
| **Organization A** | **Organization B** | **Organization C** | **Organization D** | **Organization E** | **Organization F** |
| Advantage of two way communication, good survey platform, crisis management, improve organization image, aligns with business value, culture of listening, open climate, try new technology, ready to take risk, management full support | Direct communication with customers, one to one interaction, management support, open and active organization, customer interest and benefits gained by competitors using social media, dedicated social media team, investment, cost efficiency of social media | Value provided by social media (marketing, positioning, realization of sales or returns, listening to customers, customer feedback), encouragement from management, innovativeness, open mindedness, external environment, social media team, cost effective, | Social media benefits, brand positioning, great support from management, keep up with the pace, resources and budget, less investment in Social media | Simple, compatible, benefits (communication, marketing etc.,), attractive and innovative way, customer interest, keep up with the pace top management support, Cost effective way of advertising | Global trend, competition, partner pressure, younger generations wants social media, customer appreciate, customer interest, usefulness of social media(fast, free, interactive and immediate, engagement with customers is fast), we are innovative and want to try social media, social media helps to be innovative(new way selling, marketing, communication), top management's support, cost effective. |

After identifying themes, through constant comparison method and review of literature, the final list of factors were identified. Table 4.7 shows the list of finalized factors.

**Table 4.7: Factors Influencing Social Media Usage**

| Themes | Category/Factors |
|---|---|
| Advantage of two way communication, good survey platform, crisis management (Organization A), Direct communication with customers(Organization B), Value provided by social media (Organization C), Social media benefits(Organization D), Benefits (Organization E), Usefulness of Social media (Organization F) | Relative Advantage |
| Management Full support (Organization A), Management Support (Organization B), Encouragement from management (Organization C), Great support from management (Organization D), Management support (Organization E, F) | Top Management Support |
| Culture of Listening, Open climate, try new technology, ready to take risk (Organization A), Open mindedness (Organization C), Innovativeness (Organization E) | Entrepreneurial Orientation |
| Customers interest and competitors pressure (Organization B), External environment (Organization C,E), Competition, partner pressure, customer interest (Organization F) | Institutional Pressure |
| Aligns with business value (Organization A), Compatible (Organization E) | Compatibility |
| Interactivity of Social media (Organization, E, F) | Interactivity |
| Cost effectiveness (Organization B, C, E, F), Less investment (Organization D) | Cost effectiveness |

The next section discusses the results on the organizations' impacts that were derived from social media usage. The areas of organizational performance that were improved through social media usage were explained in-depth.

### 4.2.5 Organizational Impact

The participants from various organizations explained that social media usage had provided great benefits to their organizations. The discussion below elaborates the impact factors that were identified from the interview.

The organizations mentioned that one of the biggest impacts of social media usage on organization is that it had enhanced the relationship with customers and also helped to provide better service to the customers. Almost all of the six organizations stated that social media helps a lot in building customer relations and also enhanced customer service.

According to the participant from Organization A, social media has increased the relationship with customers, helped to gain new and loyal customers and also helped to improve customer service. The participant explained this during the interview as follows:-

> *"Some questions for which we get answers from social media are "How much fan engagement we can get from social media? How many new fans can we obtain? ... Our social media is not only for marketing but mainly to serve lot of people with the help of technology… .Social media helps to understand the market well… social media is the layer to filter the customer service and already helped a lot to identify loyal customers. In some cases social media helps to provide service to customers directly, for major service, social media helps to direct the customers to the right customer service department. Previously we have to tell the customers, that the sale is coming, now they are asking when the sale is coming, so social media has increased customer relations, we have gained new customers and more loyal customers…".*

Similar to Organization A, the participant from Organization B confessed that social media has helped to improve public relations and improved the reputation of the organization through continuous communication. The participant claimed that :-

*".....After we started to use social media we gained the ability to hear customers' voices directly. Getting lot of feedback from customers about our products such as is it priced correctly? Marketed correctly? Positioned properly?... Previously we need to do focus group research etc., to get the feedback but now we get all these information from social media ... If the product sucks then the customer say it sucks if it is good then they say it is good. Social media is helping a lot for public relations or corporate affairs, it helps to improve the reputation of the company as it provides knowledge to customers about the various activities that our organization is doing.."*

Regarding the impact of social media on customer service, the participant from Organization B revealed that there is an enhancement in customer service after using social media. The participant further explained this with an example :-

*"We definitely think social media had enhanced the customer service. There are specific benefits for customer communication through social media. For example If a customer goes overseas and they forget to activate online rooming, then this is the way to communicate with us as their phone will not work. No matter where they are they can communicate with us at free cost with the help of social media ...".*

According to the participant from Organization C, social media has created good relationship with customers especially through customer comments. Furthermore the immediate reply to the comments by the organizations had improved the customer relations and helped to provide better service to customers. As the participant stated :-

"*Getting comments from customers and respond to them had created good relationship with our customers ... It has improved the speed of bringing the*

*customer information to the organization. It had also enhanced the responsiveness to customers, the customer service is made faster to certain extend. From marketing, positioning and customer service perspective we get direct impact from social media …".*

The participant from Organization D claims that social media had enhanced customer engagement :-

*"Social media encourages collaboration and also helps in enhancing customer engagement with the organization".*

Similarly, the participant from Organization E mentioned that communication with customers is enhanced via social media especially via Facebook :-

*"The communication with customers had improved a lot with the help of Facebook, as previously we hardly had two-way communication, but now it is easier to have good relationship with customers".*

Moreover the participant from Organization F also agreed that there is an enhancement in customer service and customer communication through the use of social media :-

**"***The main extraordinary benefit that we receive via social media usage is the improvement in customer service and also the communication with customers had improved tremendously after the usage of social media …".*

As discussed earlier enhancement in customer service and customer relations is the important benefits of social media. The interview findings also reveal that some organizations have seen cost reduction in terms of marketing and customer service with

the usage of social media. The views of various organizations about the social media impact on cost reduction are presented next.

Some of the organization claimed that they had seen a cost reduction in terms of marketing and customer service from social media usage. According to the participant from Organization A, social media usage has reduced cost in terms of marketing and customer service in their organization. As the participant stated :-

> *"Social media had definitely reduced the spending of the marketing dollars. Social media does eliminate the cost of customer services in certain areas, by cutting down the various layers of customer service. In some cases social media helps to provide service to customers directly, for major service social media helps to direct them to the right customer service department".*

On the other hand, the participant from Organization B stated that spending for advertisements in social media is less and very effective. He further claimed that :-

> *"We use social media in conjunction with advertising; it is a continuous improvement in terms of doing things in terms of optimization ... It is more of extracting value, instead of spending more on traditional media, we now spend on social media which is less and very effective".*

Similarly the representative of Organization C stated that :-

> *"Social media is very cost effective and reduced the marketing cost. It is like "Did I do it more effectively using social media? One print advertisement in newspaper cost 30 to 40K, but we spend very less on Facebook post, and can get the same message across to 2k or 4k people".*

Similar to Organization C, the participant from Organization D also stated that social media reduce cost especially in terms of advertising :-

> *"Yes off course we see cost reduction. In social media when we do campaigns etc., the cost is less. I won't say it is free, but the cost is very minimal for advertising at Facebook. It is an additional channel for advertising; I won't say it is the main one. We reach more people fast, effectively, in real-time, at minimal cost compared to traditional media".*

Therefore, from the above discussions it is clear that social media has reduced cost for organizations in terms of advertising and customer services. The other impact factor identified through the interviews is the improvement in information accessibility.

Almost all the organizations stated that social media provided various informational benefits to both organization and its customers. The participant from Organization A stated that social media enhances information sharing between the organization and its customers. Social media also provided information about the market to the organization. The participant explained this as follows :-

> *"Social media had helped to update our customers very effectively every minute. We are also getting lot of information about our customers and competitors via social media. Social media helps to understand the market well".*

Similarly Organization B also share organizational information to customers and receive information about the customers via social media. The participant claimed that :-

> *"Social media provides knowledge to customers about the various activities that our organization is doing... and helps us to get information about customer preferences, their opinions, competitors etc".*

The participant from Organization C stated that social media helped in easier information access and also enhanced information sharing. Some of the organizations have also generated revenue via social media which is explained in the next paragraphs.

Some organization said that social media have an impact on revenue generation of the organization. Whereas others said that the benefit of social media had not come to that extent yet. The participant from Organization A stated that even though social media is not a direct revenue generator, some campaigns on social media had helped to generate revenue for the organization :-

> *"Social media also helps for revenue push. Some particular campaign on social media had helped to drive the revenue. It is a good support for revenue generation …".*

Whereas the participant from Organization B argued that at present social media usage is not a direct revenue generator in their organization :-

> *"At the moment, no revenue generation via social media, as we don't use social media for direct sales activities …".*

On the other hand, the participant from Organization C claimed that they had already started to generate revenue through social media; the participant explained this as follows :-

> *"Social media also helps to generate revenue ... Our credit card campaign was a revenue generator which was only from Facebook, which increased credit card usage. The actual smaller individual key performance indicators are directly related to individual campaigns like increase in credit card usage through our credit card campaign in Facebook .... We know the number of*

*people who signed up because they actually found out about us from Facebook. We have our own application build to measure this ...".*

Similarly the participant from Organization F provides strong evidence that their XXXaaa program on Facebook is a direct revenue generator. Thus, they strongly support that social media have an impact on revenue generation.

The interview findings showed that among the six organizations interviewed, only two organizations stated that social media usage in their organization had generated revenue. Further, some organizations also stated that social media usage provide competitive advantage over their competitors.

With respect to competitive advantage, there were different views from the participants interviewed. The participant from Organization A stated that social media helped to maintain competitive position :-

*"In terms of various activities such as crisis management, sales revenue, fan engagement using social media, it helped to maintain competitive positions compared to our customers. We use creative ways to introduce a new destination with the help of social media; we have a dedicated social media team to use social media in a creative and different way which helped us to gain competitive advantage ...".*

Whereas the participant from Organization B argued that social media usage doesn't provide competitive advantage, as the competitors are also using it effectively :-

*"Well our competitors are also in the same pace, so we don't see any advantage over competitors. Today it is hygiene factor that everyone should use*

*social media ..., we think social media is fairly matured, it is the matter of how companies use it innovatively which might help you to gain competitive advantage ...".*

According to the participant from Organization C, the proper and innovative use of social media can create competitive advantage. The most important aspect of social media is that the customer's conversation should be valued and responded accordingly which will help organizations to achieve competitive advantage. The participant explained this as follows :-

*"If social media is used correctly then it creates competitive advantage. Social media is not the greatest innovation in the world. It is an essential thing, what people do every day. It is same like previously we used to have a chat in the coffee shop, now we are having it online. It is the human interaction made available and visible online. As long as you value customer conversation and human interaction then there is an impact, but if you don't value customers like some organization don't want to listen to customers, then they cannot be in social media. Some of them have a Facebook page, but disallow comments. Some allow comments but don't answer to them. But it's hard also because we need resources and people online all the time to answer. We need to have dedicated people to do that ...".*

While the participant from Organization F stated social media usage had helped them to gain competitive advantage :-

*"I would say that we try to be innovative than other competitors eg., our XXXaaa program via social media had helped us to gain competitive advantage.*

*We try to be the innovator and try to be competitive, for which social media helps a lot ...".*

The above discussions show that social media can provide competitive advantage when the organizations use them innovatively and differently from their competitors. Initially various themes were retrieved from the interview data of six organizations on social media impact. The themes are listed in Table 4.8. Then by using the constant comparison method, the final list of impact factors were identified and named based on the literature review. Table 4.9 portrays the final list of impact factors.

## Table 4.8: Themes for Organization Impact

| Organization Impact | | | | | |
|---|---|---|---|---|---|
| **Organization A** | **Organization B** | **Organization C** | **Organization D** | **Organization E** | **Organization F** |
| Fan engagement, fans obtain, understand market, serve people, identify loyal customers, customer service, increased customer relations, gained new customers, enhanced customer service, reduced the marketing dollars, revenue push, drive the revenue , support for revenue generation, increased customer relations, gained new customers and loyal customers, maintain competitive positions, competitive advantage, update customers effectively, getting information about customers and competitors, eliminate the cost of customer service in certain areas, understand the market. | Hear customers voice directly, feedback from customers, getting all information from social media, improved reputation, provide knowledge to customers, social media spending less for advertising and effective, enhanced customer service, enhanced communication | Cost effective, reduced marketing cost, revenue generator, competitive advantage, good relationship with customers, visibility of customers to top management, improved speed of customer information to organization, easier access to information about customers and competitors, faster customer service, impact on marketing, positioning, customer service, improved brand performance | Cost is minimal. Information about organization to customers, awareness channel, information sharing, positive WOM, enhancing customer engagement, marketing research | Publicity to our business and products, partially generate revenue, word of mouth, get new customers, improved communication with customers, good relationship with customers, faster information access, faster respond to market scenarios | More awareness, revenue generator, useful information from social media, enhance organizational flexibility, Social media helps innovation, competitive advantage, timely information about customers, timely response to customers, improvement in customer service, enhanced communication |

After comparing the themes for similarity and differences using the constant comparison method, the final categories were identified, and after reviewing the literature the categories were given appropriate names.

**Table 4.9: Organization Impact Factors**

| **Themes** | **Category/Factor** |
|---|---|
| Fan engagement, obtain fans, serve people, customer service, increased customer relations, gained new customers and identify loyal customers(Organization A), enhanced customer service, enhanced communication(Organization B), good relationship with customers, faster customer service (Organization C), enhancing customer engagement(Organization D), get new customers, improved communication with customers, good relationship with customers(Organization E), timely response to customers, improvement in customer service, enhanced communication (Organization F) | Enhanced customer relationship and customer service |
| Reduced the marketing dollars, eliminate the cost of customer service in certain areas (Organization A), social media spending less for advertising and effective (Organization B), reduced marketing cost (Organization C), Cost is minimal (Organization D) | Cost reduction(Marketing, Customer service) |
| Getting information about customers and competitors(Organization A), getting all information from social media, customer feedback(Organization B), improved speed of customer information to organization, easier access to information about customers and competitors(Organization C), Information about organization to customers, informational sharing(Organization D), faster information access (Organization E), useful information from social media (Company F) | Improved Information accessibility |
| Revenue push, drive revenue, support for revenue generation(Organization A), revenue generator(Organization C & F) | Revenue generation |
| Maintain competitive positions, gain competitive advantage (Organization A), competitive advantage(Organization C), competitive advantage(Organization F) | Competitive Advantage |

Therefore from the previous discussions and Table 4.8, it is clear that social media usage impact the organizations by enhancing the customer relationship and service. It also provided direct two-way communication and enhanced customer relationship. At

the same time social media also helped organizations in providing better service to customers. It was found that social media usage provides cost reduction in terms of marketing and customer service. The participants stated that using social media to advertise and promote organizations' products and services is cheap compared to traditional media.

Furthermore, social media usage also facilitated easier access to information about customers, competitors, and the market. Even though some organizations stated that social media usage had helped them to generate revenue, however for other organizations it did not. Finally it was also found that social media usage helped organizations to gain competitive advantage only when it was used innovatively, efficiently, and differently from others. In the next sections the results on the influence of industry and organizational size on social media usage are presented.

#### 4.2.6 Influence of Industry and Size of the Organizations on Social Media Use

The organizations were asked about the type of industries that were more suitable to use social media. And the comments below are from organizations that belong to different industries.

According to the participant from Organization A, social media is suitable for only some industries; however organization size is not an issue for social media usage. The participant claimed that :-

> *"I think social media is suitable for certain industries only, but every organization should go digital to know who are your fans and loyal customers, but you have to be transparent and careful. Organizations either large or small*

*can use social media, but the main thing is on maintaining the social media page. It's all about your business strategy to use social media …".*

Similarly, the participant from Organization B stated that the usefulness of social media depends on the nature of the business :-

*"Well... social media is more suitable for some industries compared to others, because some can make more use depending on the nature of their business. It can be used for B2B and B2C businesses. Some organizations will be able to use social media more than others as it is all about skill; if you have the skill then u can invest on social media …".*

The participant from Organization B stated that the usage depends on size of market rather than firm size :-

*"Firm size does not matter, but it depends on size of market. I have seen people running their entire business on Facebook based on word-of-mouth. Large companies use social media to do some part of customer base activities".*

The participant from Organization C argued that social media usage depends on type of business and resources available. Social media management and valuing customers' comments are the important aspects for social media usage regardless of size and industry. The participant stated that :-

*"They should evaluate before launching, it depends on the business and resources, because if you start a social media page, but have no one to manage it, then it becomes a disaster, so you need to think about it and evaluate before using whether the benefits overweigh the risks. If you value customer conversation, then you should consider social media. I think in today's'*

*competitive world any organizations either big or small, regardless of their size must value the customer. So if they value their customers then they must be in social media, whether service or product you must value the customer, so social media helps in this case. So organizations must do the research on digital bushblock, mashable, which keeps them up-to-date with Facebook and other social media tools".*

While the participant from Organization D stated that for some industries social media is really useful as they can take full advantage of the technology, whereas in industries like the automotive industry, it is more suitable to conduct research about the product before buying :-

*"When we buy car, we go online to get a review, to do research before buying which is considered very important. So it is relevant for the automotive industry. Every industry has success stories on social media, like telecommunication, airlines etc., Telecommunications are using it for customer service. Once in a while they have monetization going on via social media like sell some special prepaid promotions etc. For car industry social media can be used at a research level ...".*

On the other hand, the participant from Organization E stated that social media is not suitable for all businesses :-

*"Social media is not suitable for all businesses. For businesses dealing with products, or retail, it is the right platform. Research should be done before they initiate ...".*

On a similar vein, the participant from Organization F stated that social media is suitable for any size of business, but only suitable for certain industries :-

> **"***All organizations big or small can use it. Add-on features have to be paid, others are free. When we look at industries, I think only for certain industries it works. Facebook and Twitter works more for service-oriented companies. …".*

Therefore the findings showed that social media can be used by organizations of any size, but it is more suitable for certain industries than others. The next section elaborates on the various ways organizations used to measure social media success.

#### 4.2.7 Social Media Success Measures

The different ways the organization used to measure social media success are explained below by the participants from different organizations.

Organization A uses Likes and Shares to measure basic success, in depth analysis is done manually by reading the comments posted by fans and customers. More explanation from the participant of Organization A is stated as below :-

> *"At a basic level we use Likes and Shares to measure the reach. For the level of engagement we look at the quality of the replies, sentiment monitoring, trend monitoring and analysis, how a complaint channel can be changed into a branding ambassador. We also have fans that support against complaints. Most of the monitoring is done manually. We do have basic tools, but we feel it's better to do it manually, because we can understand the feeling of our customers on social media which shows how successful it is".*

Organization B mainly use analytics provided by Facebook and also outsourced a company to perform sentiment analysis on consumers' posts. The participant stated that:-

> *"We have several different key performance indicators to measure success. The success of Facebook is measured via Likes, but it is no longer very important. We track engagement level, for every status message or activity we track the interaction we have with customers. We mainly use analytics provided by Facebook, through which we can see the richness of information. We do sentiment analysis, we hire a company and they do analysis for us …".*

However, the participant from Organization C argued that even though number of Likes can be used to measure primary success but still no proper measurement is available to measure the complete success of social media. As the participant claimed :-

> *"A tool called Radiant Six helps to see how, and when people talk about our brand, another thing is the Likes in Facebook, say our company save 600,000 Likes, so we can reach those people easily via social media. But we don't know whether we are completely successful, because there are no proper measures to identify the success of social media, but we know the efficiency of communication had improved".*

On the other hand, Organization D uses Likes and feedback from customers to measure social media success. The participant from Organization D stated that :-

> *"As a way to measure our social media usage success, a month ago we looked at all brand pages in Malaysian companies, the number of Likes are high for our organization compared to our competitors. Social media monitoring is done basically by getting feedback from customers …".*

Similar to Organization C, the participant from Organization E also stated that there is no proper measurement to analyze social media success :-

> *"Increase in Likes is one of the basic social media success measurements for our organization. But there are no proper measurement to look whether Facebook had actually led customer to sales, unless like some customers who they themselves say on Facebook that they got the product".*

The participant from organization F stated that tools like Google analytics, Omniture and insights from social media channels are used to measure social media success :-

> "*Our organization use tools such as Google Analytics/Omniture to measure our social media usage success and also we consider the insights from social media channel about our organization...".*

The above descriptions shows that most organizations use Likes, Shares and Numbers of Followers as the basic measurement criteria, and some organizations also use measurement tools like Radiant 6, Google Analytics, Omniture etc. However, in most cases, the social media success is measured qualitatively, mainly looking at the customer feedbacks, discussions etc., Organizations also stated that there is no proper measurement to measure social media success; rather it is done more qualitatively. But however the organizations are quite sure that social media is working well and providing value.

Even though the organizations claimed that social media provides value, most of the organizations banned the use of social media by employees during work hours. Therefore the interview results explain how organizations in Malaysia handles the productivity issues associated with social media usage.

### 4.2.8 Social Media and Productivity Issues

Most of the organizations' participants said that social media are used only by the social media team. The people in social media team have no time to waste as they have to answer thousands of queries a day. Whereas other organizations argued that social media do not affect the productivity as the participant from Organization A explained :-

> *"We are social media lovers here. No ban for social media in our organization, as we are more innovative and fun, we won't limit the fun the employees are getting. People are mature enough to do their work and have fun as well. The productivity is not affected by social media alone; there are other factors as well. So we need to hire right people. Social media is not the core for the lessening of productivity. In fact I would say it's a very good viral factor".*

Similarly the participant from Organization B also claimed that performance of an employee is not really affected by social media. He explained that :-

> *"Well, I don't think it is a significant factor, the employees performance is managed by typical performance management. So if we have a proper framework to set the goals and track the performance and do proper evaluation then it doesn't matter what they do in between. For example, if you assign six projects for a year, if they didn't finish then they didn't meet the goal, so it doesn't matter whether they work 24 hours or 5 hours, the main thing is they have to meet the goal. The thing is if you ban Facebook, then you have to ban smoking, because people who smoke, every ten minutes they go out and smoke, it is the matter of how you manage performance correctly. If you are concerned about Facebook, then take away computer from them, even then how can you*

*measure productivity, a person can sit 16 hours in their place, but how do you ensure they are working?".*

According to the participant from Organization C, only the social media team is allowed to use social media tools during work hours. As the participant stated :-

*"In our organization only the social media team can access to social media sites such as Facebook and Twitter, others are not allowed. We have our own intranet for employees, through which they can have internal conversations... and when you look at social media team I think they don't have time to use social media for non-business related activities during work hours, because they need to answer 600,000 people and moreover in our team we have only 4 people to manage social media, we want only small team as we need to find right people to monitor social media. We don't want to increase the team, as it is difficult to find right human resources, because they are representing the bank, so we need right people who can answer on behalf of the bank".*

Moreover the participant from Organization D, E, and F stated that except the social media team, other employees are not allowed to use social media during work hours. The above discussion shows that most of the organization allows only the social media team to use social media and banned it for others, whereas other organizations argued that it is not necessary to ban, as the employees are mature enough to meet their goals. Apart from productivity, another important issue with social media usage is the reputation management which is discussed in the next section.

### 4.2.9 Social Media and Reputation Management

The organizations agreed that reputation management is an important issue when using social media. This can be solved by being transparent, open, and immediate. The participant from organization A claimed that being transparent is one way to manage reputation. The participant further explained :-

> *"When we decided to go into social media, we know we have to be transparent. If we know the problems then we immediately explain it to our fans, otherwise we send the message to customer service department. We don't do any deletion or filtering of comments. The main thing in social media is that we are transparent to you (people) and you have to be transparent to us also..."*.

The participant from Organization B argued that organizations must be open to accept negative comments and use it as a feedback to enhance the quality of service :-

> *"We have to go into social media with our eyes open, in the normal world when you and I talk about a service provider it stays between you and me but when we speak the same thing on social media, then everybody can see it. Therefore we try to use it in positive way. We use the negative comments as feedback to our network team to look at quality and how to improve quality ..."*.

The participant from organization B added that the negative comments are not deleted from the Facebook page rather replied immediately in a polite manner :-

> *"No deletion of comments. If our customers have a problem then we need to solve the problem. We also direct them to go to our Twitter page and go to our forum, as these channels are mainly used for customer service"*.

Furthermore the participant from Organization B also said that it is better for customers to post the complaint in the organizations' Facebook or Twitter pages rather than posting it in other areas.

Organization C has developed SOPs to handle situations that affect the reputation of the organization and the negative comments are taken as feedback to improve the service. The participant from Organization C stated that :-

> *"We have very strict standard operating procedures to handle critical situations on social media for eg. if it is a misrepresentation of facts then we explain it on social media. If the comments are negative then we take it as feedback; if we have constructive criticism, then we need to take it and improve it..."*.

Similarly, the participant from Organization D said that listening is very important in social media. Negative comments should be managed properly to make the situation better. The participant further explained that :-

> *"If there is a bad comment, we listen slowly and then we find what the problem is and try to deal with it. Listening is important. If I delete comments, then they might post it somewhere else and this makes the situation worse. So that we know what is happening. Negative comments cannot be avoided, but we need to manage it. We try to ensure that we get more positive comments by dealing with the customers politely. Internally we think everything is ok with the service of our organization but externally if there is any problem then we can learn what our problems are from social media. If you want to go into social media then you need to accept it"*.

Furthermore, the participants from both Organizations E and F stated that by giving polite response and continuous monitoring, the issues related to reputation management can be handled in a better way. Moreover the participant from Organization F stated that they had set up SOPs to handle critical situation. He further explained :-

> **"…** *In times of real crisis, for example in a case of an aircraft incident, it has to be carefully monitored, otherwise everybody post comments and photographs, it spoils the reputation; so we handle it carefully by following our Standard Operating Procedure (SOPs). The SOPs for social media during crisis are :-*
>
> - *Be on constant monitoring for any crisis arising.*
> - *Once detected – quickly gather information but at the same time reassure customers through standard messages planned beforehand.*
> - *When presenting information – always be truthful and be ready for two-way dialog between company & customers.*

Therefore it shows that organizations have set up SOPs to deal with critical situations. Furthermore listening to customers' problems and replying politely is very important for reputation management. Negative comments should be taken as feedback to improve the quality of services. The next section describes the future use of social media among Malaysian organizations.

#### 4.2.10 Future of Social Media

The participants gave their insights about the future of social media and its usage. The various views are as follows :-

The participant from Organization A stated that they plan to use social media more effectively. Social media will be used not only as a marketing tool but also as an engagement tool in the future. The participant further explained :-

> *"We want to expand; we want to use social media platforms as our brand ambassadors. We want to build loyal customers and explore new markets, expand brand page and our brand is one of the top brands in using social media effectively, even though not number one in social media usage. So in order to use social media more effectively in the future, I think we are planning to use it not only as a marketing tool but also as an engagement tool. We are open with any social media tool, but we need to look whether it is suitable for us or not..."*.

Similar to Organization A, the participant from Organization B stated that in the future social media will be used more for engagement and less for promotion. The participant said that :-

> *"There are lots of plans which are quite different from what people normally do in social media. Plan to use more for engagement and do less promotion. Last time we used to think the numbers of Likes are high for our Facebook fan page, but now the benchmark is different. As of now, more than 12 million Malaysians are on Facebook, therefore the 500,000 Likes is small. So we aim to catch 1 million eye balls, as our customer base itself is 14 million. So in the future we will use it more for engagement and provide more value for fans…"*.

Whereas, Organization C plans to use social media for various purposes and it will be integrated well with the business. They also plan to use social media for product innovation. The participant from Organization C explained this as follows :-

*"I think social media will continue to provide value. Slowly it should be integrated into business depending on what different businesses want to achieve. We are using social media already for various purposes like marketing, helping credit card business, debit card business via campaigns on social media. To a small extent we are trying to use social media for product innovation. All these usages will continue and social media will be used for more purposes in the future".*

Organization D plans to have a sustainable strategy, budget and proper social media team to manage social media usage. The participant from Organization D describes the future plan as follows :-

*"We plan to expand to have more sustainable strategy for social media, at this point of time it is not final, but we have started to see the usefulness of it, and top management embraced it. Maybe next year, we will have a proper strategy and we will have the budget for social media. Currently we are very happy as senior management is encouraging to use social media. We already built proper SOPs guides for social media; we have a good digital team to go with it. We know how to use social media for business purposes. One day when we have few thousand Likes we will have a team to sit with social media from morning to evening to answer questions, at present we have only one person to deal with social media. We are waiting for that day and working hard to achieve that day...".*

The participant from Organization E said that social media tool especially Facebook will be used effectively. Social media is also expected to provide various benefits to the organization in the future. As the participant claimed :-

"*In future our organization wish to see Facebook with more added features and upgrades. Facebook may increase the profit by building new customers, by branding, and enhancing the success of promotional campaigns which will be conducted in the future. It is a good platform and communication tool where some additional and special information can be given to the customers about the product and company...".*

The participant from Organization F stated that apart from Facebook, other social media tools like Foursquare and Google+ will be used in the future :-

*"Existing Loyalty program on social media will be continued. We plan to use Facebook in many different ways. We are also going to use foursquare and Google+. We are planning to move to more social media platform...".*

From the above discussion it is apparent that social media will be used extensively in the future, as the organizations are enthusiastic about the usage of social media. They are planning to use it in many different ways, not only as a marketing tool but also as a very good engagement tool. Apart from Facebook and Twitter, the organizations are also planning to use other social media tools to enhance their businesses.

#### 4.2.11 Summary of Phase II

The findings from the interviews provided some valuable information on social media status among Malaysian organizations. The study shows that organizations mainly use Facebook and Twitter for their business, followed by Blogs and YouTube. The important finding of Phase II was the items development for social media usage construct. Organizations use social media for various purposes such as to search for

information about customers and competitors, for branding, for advertising and promoting their products and services, for conducting market research, to reach new customers, for getting referrals and enhance WOM. Social media is also used to develop good relationship with customers, to have effective communication with customers, for customer service activities, and also to receive valuable feedback from customers.

The study findings also identified factors such as relative advantage of using social media, interactivity, compatibility and cost effectiveness of social media as the important factors that influence the usage of social media in organizations. Based on the literature review, all the above mentioned factors are categorized under technological context. Factors such as the top management support and entrepreneurial orientation of the firm are categorized under organizational context. The institutional pressures which were identified as the critical factors that influence social media usage belong to an environmental context. The current study results are consistent with the previous studies on information system adoption.

Relative advantage of social media is identified as an important factor that influences social media usage. The result is consistent with previous studies done by El-Gohary (2012), Al-Qirim (2007) and Ramdani et al. (2009). Similarly the results found that compatibility of social media influence social media usage. The result is consistent with previous studies (Wang et al., 2010; El-Gohary, 2012). The result suggests that cost effectiveness of social media influence social media usage which is consistent with previous studies such as Premkumar and Roberts (1999); Chong and Chan (2012). Moreover on the technological context, interactivity of social media found to have an influential effect on social media usage and the results are consistent with previous

studies by Jiang et al. (2010); Lee and Kozar, (2009); Pituch and Lee, (2006); Lee and Choo, (2011).

Under the organizational context, top management support was identified as one of important factors that influence social media usage and the results are consistent with previous studies (Chong and Chan, 2012; Ramdani et al., 2009; Low et al., 2011). Furthermore, entrepreneurial orientation of the firm was identified as an important factor in social media adoption which is consistent with studies such as Elliot and Boshoff (2005) and Mostafa et al. (2006). For the environmental context, institutional pressure was found to be an important factor that influences social media usage. Institutional pressure variable was used by many studies and found supportive results (Teo et al., 2003; Ke et al., 2009; Liu et al., 2010; Liang et al., 2007).

The findings also showed that social media is providing various benefits and has helped to improve the performance of the organization. The results found that social media had enhanced customer relations and customer service, and also improved information accessibility. Social media usage had also reduced the cost of marketing and customer service activities to some extent. Some organizations had also generated revenue with the help of social media and for organizations that are using social media innovatively have also achieved competitive advantage over their competitors. Similar to the current study, previous studies have found similar findings that technology usage/adoption have positive impact on organizational performance (Moen et al., 2008; Apigian et al., 2005; Shuai & Wu, 2011).

Apart from the main results, the findings also highlighted some of the other results. It was found that social media can be used by organizations of any size, but is more

suitable for some industries as compared to others. Further, the organizations also claimed that there are no proper measurement tools to measure social media success; in most cases the success is measured qualitatively, but the organizations are sure that social media is providing value to their business.

For the issue of productivity, the study findings shows that in most of the organizations social media access is banned during work hours except to the social media team, whereas in some organizations it is not banned, as the top management feels that employees are mature enough to meet their goals. And the organizations' participant also claimed that the social media team has no time to waste in other non-business activities, as they have to reply each and every query immediately.

Moreover in order to manage the reputation which is critical when using social media, the organization's has set up SOPs to deal with critical situations. Mainly listening to the customers' problem and replying politely and immediately are some important aspects to consider when dealing with reputation issues. Finally, the organizations planned to use social media more effectively and innovatively in the future. Organizations wanted to use social media mainly to improve customer engagement rather than just for advertising and marketing purposes.

Therefore the findings highlighted that social media can provide great value when it is used correctly and effectively. The study objectives are to identify the various purposes of social media usage, antecedents and consequences of social media usage. Therefore the results will be further investigated in Phase III using survey method in order to confirm the results and provide complementary strength to the study.

## 4.3 Phase III

In this phase of the study, the questionnaire survey method was used to collect data. This section describes the data preparation, descriptive statistics, assessment of normality, reliability and validity of the measures, and the results of hypothesis testing are also reported. This section starts by describing the data preparation process where the data are checked for outliers and normal distribution. The descriptive statistics are discussed, followed by the assessment of reliability of measures and exploratory factor analysis. Then, the results of the tests for common method variance and non-response bias are presented. In the final part of the section, the Partial Least Squares (PLS) method was employed to validate and confirm the research model of this study, which explains the assessment of the measurement model and the structural model.

### 4.3.1 Data Preparation

The first step for data preparation is to check for an acceptable questionnaire. This is followed by editing, coding, and transcribing the data. The data is 'cleaned' and a treatment for missing response is prescribed. Out of 174 questionnaires received, 3 were incomplete. The remaining 171 questionnaires were retained for further analysis. For the coding process, since the questionnaire contains only structured questions, all the items were pre-coded before field work commenced. The construct items in the questionnaire used the 5 point Likert scale, so they were coded as 1 – strongly disagree to 5- strongly agree. Similarly, specific codes were assigned for demographic questions. Appendix 3 presents the codes for the demographic questions.

After coding, the next step in the data preparation stage is transcribing. Transcribing data involves transferring the coded data from the questionnaires or coding sheets on computers. Since the study used online survey, the online data collection tool provided the response data in Microsoft excel format. So the data was just transferred from Excel into IBM SPSS 20 software directly for further analysis. After data transcribing, data cleaning was performed. Data cleaning includes consistency checks and treatment of missing response (Malhotra, 2010).

Consistency checks identify data that are out of range, logically inconsistent, or have extreme values. Frequency and descriptive analysis are performed to identify the out of range, extreme values, and missing data. The results showed that there are some out of range or extreme values. Few missing data were also detected, which was substituted by the value 99 on the data set. Further preliminary testing such as examination of outliers, assessment of normality, and evaluation of scale reliability and validation are performed on the 171 cases.

### 4.3.2 Demographic Analysis

The results of the demographic details of the respondents are explained in this section. From the overall responses, 26 organizations that responded to the survey were from the manufacturing industry while the remaining 145 were from the service industry. It showed that almost 84.8% of the respondents were from the service industry. The results also showed that nearly 30% of the responses were from establishments that were more than 20 years in existence. This was followed by 19.9% of those organizations that were in operation for less than 5 years, 18.1% of the organizations

that have been in operation for about 5 to 10 years, and 18.7% of the organizations are in existence for 10 to 15 years each.

Next in terms of employee strength, 44.4% of organizations reported employing less than 50 employees while 14% reported employing 50 to 100 employees. Organizations employing 100 to 200 employees were 8.8% while 4.1% reported employing 200 to 300 employees. 1.8% of the responses were from organizations employing 300 to 400 employees, while 24.6% of the responses were from organizations with more than 500 employees. This implied that the profile of organizations in terms of employees show that the majority of the organizations that responded to the survey are small, with less than 50 employees, followed by very large organizations with more than 500 employees. The profile of the responses for this study in terms of industry type, years in operation, and number of employees is summarized in Table 4.10.

**Table 4.10: Organization Profile**

| **Industry** | | |
|---|---|---|
| **Type of Industry** | **Frequency** | **Percentage** |
| Manufacturing | 26 | 15.2% |
| Services | 145 | 84.8% |
| **Organization Age** | | |
| **Years in Operation** | **Frequency** | **Percentage** |
| 5 to 10 Years | 31 | 18.1% |
| 10 to 15 Years | 32 | 18.7% |
| 15 to 20 Years | 23 | 13.5% |
| More than 20 Years | 51 | 29.8% |
| **Number of Employees** | | |
| **No. of Employees** | **Frequency** | **Percentage** |
| Less than 50 | 76 | 44.4% |
| 50 to 100 | 24 | 14% |
| 100 to 200 | 15 | 8.8% |
| 200 to 300 | 7 | 4.1% |
| 300 to 400 | 3 | 1.8% |
| 400 to 500 | 4 | 2.3% |
| More than 500 | 42 | 24.6% |

Next the demographic details of the respondents who represented the organization are reported. For the levels in the organizations' hierarchy, about 40% are from middle management, followed by executives (30%) and senior management (29%). Regarding the years of working experience with the current organization, about 54% of the respondents are attached to the organization for about 1 to 5 years, 19% of the respondents are having work experience with the organization for about 5 to 10 years, and about 3% of the respondents are with the organization for more than 15 years. In terms of involvement in the decision making of social media usage, majority of the

respondents about 79% reported that they play an important role in the decision making on social media usage. Table 4.11 summarizes the profile of respondents of the survey who represented the organizations.

**Table 4.11: Respondents Profile**

| **Level in Organization Hierarchy** | | |
|---|---|---|
| **Level** | **Frequency** | **Percentage** |
| Senior Management | 50 | 29.2% |
| Middle Management | 69 | 40.4% |
| Executive | 52 | 30.4% |
| **Working experience with the organization** | | |
| **No. of years** | **Frequency** | **Percentage** |
| Less than 1 Year | 31 | 18.1% |
| 1 to 5 Years | 92 | 53.8% |
| 5 to 10 Years | 33 | 19.3% |
| 10 to 15 Years | 10 | 5.8% |
| More than 15 Years | 5 | 2.9% |
| **Social media decision making** | | |
| **Social media decision maker** | **No. of respondent** | **Percentage** |
| Yes | 135 | 78.9% |
| No | 36 | 21.1% |

Finally, the social media usage in organizations was analyzed. Table 4.12 shows the information on social media usage by organizations. More than half (53%) of the organization replied that they have been using social media in their organization for more than 2 years, and about 32% of the organization have been using it for 1 to 2 years, and only about 4% of the organizations have been using it for less than 6 months. This showed that most of the organizations in Malaysia have been using social media for a reasonable period of time. Therefore it is possible to study the impact of social media usage on organizations' performance.

For the question, how often does the organization post information or respond to customer queries via social media, more than half (58%) of the organizations replied that they respond within a day, followed by 21% of the organizations who responded or posted information within a week, and only about 2% of the organization take more than a month to respond. The results showed that the frequency of social media usage among organizations in Malaysia was moderately good, as more than half of the organizations post information or respond to queries within a day.

**Table 4.12: Social Media Use**

| **Social media use** | | |
|---|---|---|
| **Years/months of social media usage** | **Frequency** | **Percentage** |
| Less than 6 months | 6 | 3.5% |
| 6 months to 1 Year | 21 | 12.3% |
| 1 Year to 2 Years | 54 | 31.6% |
| More than 2 Years | 90 | 52.6% |
| **Organization response via social media** | | |
| **Response Time** | **Frequency** | **Percentage** |
| Within an hour | 18 | 10.5% |
| Within a day | 99 | 57.9% |
| Within a week | 36 | 21.1% |
| Within a month | 14 | 8.2% |
| More than a month | 4 | 2.3% |

### 4.3.3 Descriptive Statistics

This section presents the preliminary analysis of the data collected. The mean and standard deviation scores for the items and the variables are reported. The mean scores for all the items ranged from 3.09 to 4.31, and the standard deviation scores ranged from

0.538 to 1.003. This indicated that there is moderate variation with regards to the responses from the survey.

The items for social media usage had the lowest mean of 3.40 (SD = 1.003) while the highest mean score observed was 4.31 (SD = 0.705). The examination of mean scores for the items of relative advantage showed that the lowest mean score was 3.77 (SD = 0.841) and the highest was 4.12 (SD = 0.679). The lowest mean score for the items of compatibility was 3.74 (SD = 0.846) while the highest score was 3.98 (SD = 0.734). The mean scores for the items of cost effectiveness showed that the lowest mean score was 4.06 (SD = 0.703) and the highest score was 4.13 (SD = 0.693).

On the other hand, the lowest mean scores for the items of the variable interactivity was 3.89 (SD = 0.751) while the highest mean score value was 4.08 (SD = 0.655). Whereas the mean scores for the items of the variable trust revealed that the lowest score was 3.38 (SD = 0.794) and the highest score was 0.361 (SD = 0.778).

Furthermore the examination of the mean scores for the items of top management support showed the lowest mean score was 3.59 (SD = 0.766) while the highest was 4.01 (SD = 0.750). The lowest mean score for the items of institutional pressure was 3.09 (SD = 0.906) and the highest score was 3.47 (SD = 0.835). Next, the mean scores for the items of entrepreneurial orientation of the firm revealed the lowest mean score as 3.44 (SD = 0.815), while the highest score was 3.98 (SD= 0.670). Finally the examination of the mean scores of the variable organization impact showed the lowest mean score as 3.67 (SD = 0.941) and highest was 4.08 (SD = 5.94). Appendix 4 presents the detailed mean and standard deviation scores for all items.

In addition to the mean and standard deviation scores for all items, the overall mean and standard deviation scores for all variables were observed. The mean scores ranged from 3.36 to 4.05 while the standard deviation ranged from 0.465 to 0.720. Institutional pressure scored the lowest mean with value of 3.36 (SD = 0.702) while interactivity and cost effectiveness scored the highest mean value 4.05 (SD = 0.498) for interactivity, and 4.05 (SD = 0.623) for cost effectiveness. Table 4.13 presents the mean and standard deviation scores for all the variables investigated in the study.

**Table 4.13: Descriptive Statistics for the Variables**

| Variables | Mean | Standard Deviation |
|---|---|---|
| Social Media Usage | 3.94 | .547 |
| Interactivity | 4.05 | .498 |
| Cost effectiveness | 4.05 | .623 |
| Relative Advantage | 3.98 | .564 |
| Compatibility | 4.03 | .639 |
| Trust | 3.48 | .720 |
| Top Management support | 3.86 | .619 |
| Institutional Pressure | 3.36 | .702 |
| Entrepreneurial Orientation | 3.67 | .465 |
| Organization impact | 3.87 | .529 |

### 4.3.4 Examination of Outliers

An outlier is generally considered to be a data point that is far outside the norm for a variable or population (Jarrell, 1994; Osborne & Overby, 2004; Rasmussen, 1988; Stevens, 1984). It is important to verify whether the scores for outliers are real or not and to differentiate between the outliers that can be deleted and those that cannot be deleted. For this study, a box plot was used to examine the presence of outliers (Appendix 5). The results of the box plot indicated that there are presences of some outliers. In order to examine further, all the variables were compared against their original mean and a 5% trimmed mean to further examine the presence of outliers. If the

trimmed mean and mean values are very different, there is a need to investigate the data points further (Pallant, 2007). But in this case, the mean and 5% trimmed mean values are very similar (refer Table 4.14). Given this and the fact that the values are not too different from the remaining distribution, the cases that are considered as outliers can be retained.

**Table 4.14: Mean and 5% Trimmed Mean**

| Variables | Means | 5% Trimmed Mean | Std. Error |
|---|---|---|---|
| Social Media Usage | 3.94 | 3.97 | 0.43 |
| Interactivity | 4.05 | 4.05 | 0.4 |
| Cost effectiveness | 4.05 | 4.08 | 0.5 |
| Relative Advantage | 3.98 | 4.01 | 0.045 |
| Compatibility | 4.03 | 4.05 | 0.049 |
| Trust | 3.48 | 3.48 | 0.057 |
| Top Management support | 3.86 | 3.86 | 0.048 |
| Institutional Pressure | 3.36 | 3.37 | 0.037 |
| Entrepreneurial Orientation | 3.67 | 3.67 | 0.037 |
| Organization impact | 3.87 | 3.89 | 0.042 |

### 4.3.5 Testing for Normality

Normality is used to describe a curve that is symmetrical and bell-shaped. The highest score frequency is depicted in the middle with lower frequencies towards the extremes. Normality can be determined by assessing the variables levels of skewness and kurtosis (Hair et al., 2006). Values for skewness and kurtosis can be both positive and negative, perfectly symmetrical distribution, while negative and positive values indicate negative and positive skewness, respectively. The kurtosis statistic will equal zero for normal distributions, while it will be negative for flat distributions and positive for peaked distributions. As a rule of thumb, values for skewness and kurtosis with the range of ±1 indicate a reasonably normal distribution (Hair et al., 2013).

Lack of normality in variable distribution can affect the result of multivariate analysis. However this problem is less severe with PLS-SEM (Hair et al., 2013). In this study the analysis showed that values for skewness are within the range of ±1. However, some values for kurtosis such as social media usage (1.183), top management support (1.212) and Institutional pressure (1.035) are above ±1 range which shows the distribution for these variables are more peaked than the normal distribution. In retrospect, for other variables, the distribution is reasonably normal.

The lack of normality problem is not severe with PLS-SEM analysis, therefore no further analysis on normality was conducted. Table 4.15 displays the values of skewness and kurtosis.

**Table 4.15: Skewness and Kurtosis**

| Variables | Skewness | Standard Error | Kurtosis | Standard Error |
|---|---|---|---|---|
| Social Media Usage | -0.441 | 0.187 | 1.183 | 0.371 |
| Interactivity | 0.269 | 0.187 | -0.370 | 0.371 |
| Cost efficiency | -0.318 | 0.186 | 0.863 | 0.369 |
| Relative Advantage | -0.218 | 0.186 | -0.151 | 0.369 |
| Compatibility | -0.361 | 0.187 | 0.353 | 0.369 |
| Trust | -0.218 | 0.186 | -0.151 | 0.371 |
| Top Management support | -0.655 | 0.189 | 1.212 | 0.369 |
| Institutional Pressure | -0.129 | 0.186 | 1.035 | 0.370 |
| Entrepreneurial Orientation | -0.072 | 0.187 | 0.246 | 0.376 |
| Organization impact | 0.067 | 0.186 | 0.645 | -0.361 |

On the other hand, linearity can be tested by observing the p-plot graphs for all variables. Linearity is assumed when a straight-line relationship is present between the independent and dependent variable (Hair et al., 2006). Based on the visual verification of the P-P Plots charts displayed in Appendix 6, it is clear that the graphical plots do not indicate any pattern of non-linearity as the dots are not far from a straight line. Therefore, the presence of linearity is observed across all variables.

### 4.3.6 Testing for Multicollinearity

Multicollinearity occurs when there are strong linear dependencies among the explanatory variables. Some problems caused by multicollinearity are if two or more variables are highly correlated with one another, it's hard to get good estimates of their distinct effects on some dependent variables. Multicollinearity makes the coefficients unstable. Standard errors may get large and variables that appear to have weak effects, individually, may actually have quite strong effects as a group (Allison, 2012).

Multicollinearity is identified by checking the "tolerance" and "VIF" values for each predictor. The "tolerance" is an indication of the percent of variance in the predictor that cannot be accounted for by the other predictors. Hence very small values indicate that a predictor is redundant, and values that are less than 0.10, shows that multicollinearity problem is present. The VIF stands for variance inflation factor, VIF values greater than 10 may merit further investigation. The study results on multicollinearity analysis reports that all the variables values for tolerance is above 0.10 and the values of VIF are less than 10, so the problem of multicollinearity does not exist in the dataset (Hair et al., 2006). Table 4.16 shows the tolerance and VIF values.

**Table 4.16: Tolerance and VIF**

| | **Variables** | **Tolerance** | **VIF** |
|---|---|---|---|
| **Dependent Variable:** Organization impact | Social media usage | 0.521 | 1.902 |
| | Interactivity | 0.781 | 1.280 |
| | Cost Effectiveness | 0.876 | 1.141 |
| | Relative Advantage | 0.389 | 2.569 |
| | Compatibility | 0.432 | 2.315 |
| | Trust | 0.761 | 1.315 |
| | Top management support | 0.529 | 1.889 |
| | Institutional Pressure | 0.585 | 1.709 |
| | Entrepreneurial Orientation | 0.641 | 1.561 |

### 4.3.7 Common Method Bias

Field studies using self-reporting, cross-sectional data are particularly susceptible to errors resulting from consistency, priming, and problems associated with common method variance (Podsakoff & Organ, 1986). Common method bias arises because of common method variance, which is the variance attributable to the measurement method used rather than to the constructs (Podsakoff, Mackenzie, & Podsakoff, 2003). Many statistical procedures were suggested to check for common method variance; Harman's single factor test is one among them.

For this study the Harman's single factor test was used to test for common method bias. Exploratory factor analysis (EFA) on all indicator variables using principal components factor analysis with unrotated and varimax rotation was performed. EFA was performed to identify the number of factors that were necessary to account for the variance in the variable. If a substantial amount of common method variance was present, either a single factor will emerge from factor analysis or one general factor will account for a majority of the covariance among variables.

The results revealed that six factors with an eigen value greater than 1.0 were extracted in both rotated and un rotated principal component analysis. The six factors together represented sixty three percent of the total variance and the variance explained for each of the six factors was 14.35, 13.08, 10.06, 8.90, 8.54 and 8.35 (unrotated), and 14.35, 13.08, 10.06, 8.90, 8.57 and 8.31 (rotated). Therefore the results show no sign of any single-factor that account for the majority of covariance, thus confirming that the data is free from common method bias.

### 4.3.8 Non-Response Bias

One of the major challenges for studies using surveys as a data collection method is the non-response bias. A general view expressed by researchers using survey instruments is that when the survey response rate is considerably high, there is no need to worry about the probability of non-response bias. But statisticians and other experts in the survey method (eg. Barriball & While, 1999) recommended that researchers should conduct a non-response bias analysis, regardless of how high or low the response rate is achieved (Atif, Richards, & Bilgin, 2012).

There are various types of survey research, among that the web-based (internet-based/electronic/online) survey is commonly used for data collection for a geographically diverse population. Even though web-based surveying provides various advantages, there are also serious methodological challenges when using this approach (Solomon, 2001). Among the various challenges, non-response bias is a significant concern and particularly salient for web-based research (Dillman, 2000; Hansen et al., 2007). There are several methods available to control for non-response bias such as; ignoring non-respondents, comparing respondents to population, comparing respondents to non-respondents, comparing early to late respondents; and "double-dipping" non-respondents (Miller & Smith, 1983).

This study uses the method that compares early to late respondents. The respondents are defined as early, and late respondents considering the first and last 40 questionnaires received (Karahanna, Straub, & Chervany, 1999). A comparison of means on all measured variables was performed to test for response bias using a t-test. In this study, the results of the t-test shows that the significance value for all variables are above 0.05,

so it can be concluded that there is no statistically significant differences between the means for these two groups. Table 4.17 shows the results for non-response bias.

**Table 4.17: Analysis of Non-response Bias**

| Variables | Early respondents (n=40) | Late respondents (n=40) | Significance (p-value) |
|---|---|---|---|
| Social Media Usage | 6.39 | 6.36 | 0.994 |
| Interactivity | 8.81 | 4.08 | 0.162 |
| Cost effectiveness | 4.22 | 6.44 | 0.352 |
| Relative Advantage | 4.01 | 6.43 | 0.312 |
| Compatibility | 3.94 | 3.90 | 0.778 |
| Trust | 3.36 | 5.97 | 0.277 |
| Top Management support | 3.69 | 3.75 | 0.677 |
| Institutional Pressure | 5.87 | 3.45 | 0.312 |
| Entrepreneurial Orientation | 3.18 | 3.12 | 0.993 |
| Organization impact | 6.67 | 6.54 | 0.972 |

### 4.3.9 Assessment of Measures

The two main assessments of measurements in quantitative research are checking for reliability and validity. Reliability assessments provide information about the repeatability, unidimensionality, and stability over time of the frequencies or ratings derived from content analysis (Reis & Judd, 2000). There are many methods and tests available to check reliability such as inter-rater reliability, test-retest reliability, Cornbach's alpha coefficient and the split-half test. Among these, the commonly used method is the Cronbach's alpha, which is used to test for internal consistency of the measures. Internal consistency is the relationship between all the results obtained from a single test or survey (Roberts, Walton, & Viechtbauer, 2006). The acceptable value for Cronbach alpha is 0.70 or above (Hair et al., 2006).

Table 4.18 shows the results of the internal consistency and reliability of measures. The results revealed that α value for all constructs is above 0.7. The α value for social media usage construct for which the measures were developed was 0.897. The variable interactivity achieved α value of 0.767, while relative advantage achieved α value of 0.893. The value for compatibility was 0.834, whereas the variable cost effectiveness achieved a value of 0.826. The value for trust, top management support and entrepreneurial orientation are 0.884, 0.853 and 0.892 respectively.

However one item from entrepreneurial orientation variable, "Innovation in our organization is perceived as too risky and is resisted", was deleted to make it more reliable. Further, α value of institutional pressure and organizational impact are 0.932 and 0.876 respectively. This showed that the questionnaire used in the study was a reliable measurement tool, suggesting adequate internal consistency and reliability of the scale measurement.

**Table 4.18: Reliability Analysis**

| **Constructs** | **Cronbach Alpha** | **Number of items** | **Number of items deleted** |
|---|---|---|---|
| Interactivity | 0.767 | 4 | 0 |
| Relative Advantage | 0.893 | 7 | 0 |
| Compatibility | 0.834 | 3 | 0 |
| Cost Effectiveness | 0.826 | 3 | 0 |
| Trust | 0.884 | 3 | 0 |
| Top management support | 0.853 | 4 | 0 |
| Entrepreneurial Orientation | 0.892 | 8 | 1 |
| Institutional Pressure | 0.932 | 6 | 0 |
| Social media usage | 0.897 | 13 | 0 |
| Organization impact | 0.876 | 10 | 0 |

Validity describes the extent to which a measure accurately represents the concept it claims to measure (Punch, 1998). Internal validity addresses the reasons for the outcomes of the study, and helps to reduce other, often unanticipated, reasons for these

outcomes. One of the approaches to assess internal validity is to check for construct validity (Eby, 1993; Punch, 1998). Factor analysis is one of the techniques that can be used to measure construct validity (Hair et al., 2006). Factor analysis consists of a collection of procedures for analyzing the relations among a set of random variables observed or counted or measured, for each individual of a group (Cureton & D'Agostino, 1983).

There are two basic types of factor analysis methods; exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA is used when the researcher does not know how many factors are necessary to explain the inter-relationships among a set of characteristics, indicators or items (Gorsuch, 1983; Pedhazur & Schmelkin, 1991; Tabachnick & Fidell, 2001). Confirmatory factor analysis (CFA) is used to assess the extent to which the hypothesized organization of a set of identified factors fits the data (Nunnally & Bernstein, 1994; Pedhazur & Schmelkin, 1991). CFA could also be used to test the utility of the underlying dimensions of a construct identified through EFA, to compare factor structures across studies, and to test hypotheses concerning the linear structural relationships among a set of factors associated with a specific theory or model (Pett, Lackey, & Sullivan, 2003).

For this study EFA was performed using SPSS. In EFA, if items load strongly on their associate factors, convergent validity is obtained, and if item load is stronger on its associate factor than other factors, discriminant validity is achieved (Hair et al., 2006). A cut-off of 0.5 for the factor loadings was used, because loadings of 0.5 or greater are considered practically significant (Hair et al., 1998). Appendix 7 reports the results of EFA which showed that most items factor loadings were greater than 0.50, and each of these items load strongly on their associate factors, confirming the convergent and

discriminant validity. However, two items were removed from the study due to low factors loadings. An item from relative advantage construct " Social media allows for better advertising and marketing" with a loading of 0.487, and an item from Social media usage construct "Social media is used to reach new customer" with a loading of 0.457, were removed from the study as the loadings were below the 0.50 threshold.

### 4.3.10 Partial Least Squares

This study uses the PLS (Partial Least Square) technique to analyze data by using SmartPLS 2.0 software for validating measurements and testing the hypothesis. PLS is a latent structural equation modelling technique employing a component-based approach to estimation. An advantage of using PLS method is that it allows the latent constructs to be modelled either as reflective or formative constructs (Chin, Marcolin & Newsted, 2003). It also has the added advantage of enabling simultaneous assessment of both the measurement model and the structural model (Marcolides & Saunders, 2006). Additionally, demands on measurement scales and sample size are minimal (Chin, 1998).

Considering the hierarchical models with second order of constructs, Ringle, Sarstedt, and Straub (2012) and Jarvis, MacKenzie, and Podsakoff (2003) distinguished four types of models contingent on the relationship among (1) the first-order latent variables and their manifest variables, and (2) the second-order latent variable(s) and the first-order latent variables. The four types are stated as follows :-

- Reflective-Reflective, Type I
- Reflective-Formative, Type II
- Formative-Reflective, Type III

- Formative-Formative, Type IV

The reason for using the PLS approach for this study is that the research model of the study contains a second order reflective formative construct (Type II). Social media usage is modeled as a Reflective-Formative type where the lower-order constructs are reflectively measured that do not share a common cause, but rather form a general concept that fully mediates the influence on subsequent endogenous variables (Chin, 1998).

Since social media can be used by organizations for various purposes like advertising, building customer relations and information search etc., these tasks are different from one another and do not necessarily correlate. The lower order constructs are measured by reflective indicators, whereas the higher order construct is measured by three formative sub constructs such as social media usage for marketing, usage for customer relations and usage for information search. Apart from that, based on past literature, constructs such as institutional pressure, entrepreneurial orientation, and organizational impact are modeled as second order Reflective-Reflective constructs (Type I). The lower-order constructs were reflectively measured constructs themselves that can be distinguished from each other, but are correlated (Becker, Bryman, & Ferguson, 2012). Similarly, the higher order constructs were measured by reflective lower order constructs.

In order to model the second order or hierarchical latent variables in PLS-SEM, three approaches were mainly proposed in the literature (Becker, Bryman, & Ferguson, 2012). The three approaches were repeated indicator approach, the sequential latent variable score method or ‘two-stage approach’, and the hybrid approach. Under the repeated indicator approach the indicators are used twice, for both first order and second

order constructs. The repeated indicators approach requires same number of indicators across the lower order constructs(LOC), otherwise due to inequality in the number of indicators among LOCs, it may cause the relationship between HOC and LOCs to be significantly biased (Becker, Bryman, & Ferguson, 2012). The hybrid approach randomly splits the indicators and uses them only once. The disadvantage of this approach is the reduced reliability of measures, as only half the number of indicators is used. The two-stage approach estimates the construct scores of the first-order constructs in a first stage model without the second-order constructs present, and subsequently uses the first-stage constructs' scores as indicators for the higher order latent variable in a separate second stage analysis (Becker, Bryman, & Ferguson, 2012). This method provides the advantage of estimating a more parsimonious model on the higher level analysis without the LOCs (Becker, Bryman, & Ferguson, 2012). Therefore this study used the two-stage approach to address the reflective formative model and reflective-reflective model.

#### 4.3.10.1 Assessment of Measurement model

Initially, assessment of model focuses on the reliability and validity of the indicators used to represent each research construct. All the final constructs derived from the exploratory factor analysis (EFA) were used in the assessment of the measurement model (Hair et al., 2006). Confirmatory Factor Analysis (CFA) was used to assess the measurement model for all constructs, and to explain how measured variables logically and systematically represent constructs in the model (Hair et al., 2006).

There are two types of measurement model evaluation under the PLS-SEM; evaluation of reflective measurement models and the evaluation of formative measurement model.

The reflective model consists of reflective constructs where the evaluation of the measurement model is based on the assessment of internal consistency (composite reliability), indicator reliability (outer loadings), convergent validity (average variance extracted), and discriminant validity. The formative measurement model consists of formative constructs. The evaluation of the formative model is based on the assessment of convergent validity, collinearity among indicators, and significance and relevance of outer weights (Hair et al., 2013).

#### 4.3.10.2 Assessment of Reflective constructs

For this study, the assessment of measurement model will be based on the evaluation criteria of reflective models, except for the second order social media usage which will be evaluated based on the formative measurement models' criteria. For the measurement models, the estimates for the relationships between the reflective latent variables and their indicators (outer loadings) were analyzed. Figure 4.9 shows the measurement model with all the first order and second order constructs and the number of items.

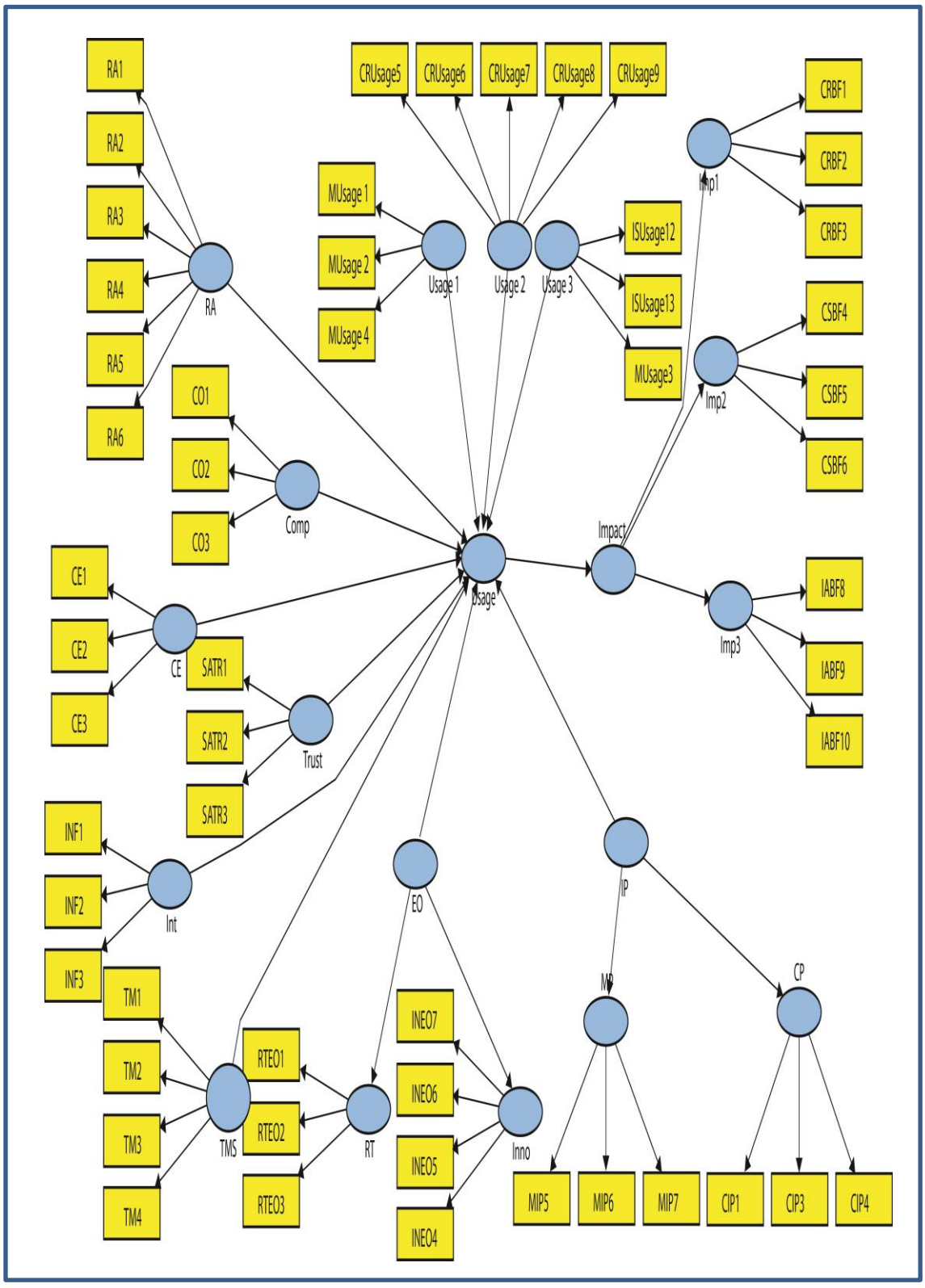


**Figure 4.9: Measurement Model with the Constructs and Indicators**

In order to retain an item in the measurement model, it must have significant outer loadings. The indicator outer loadings should be higher than 0.708. However indicators with outer loadings between 0.40 and 0.70 should be considered for removal only if the deletion leads to an increase in AVE and composite reliability (Hair et al., 2013).

Figure 4.10 illustrates the measurement models of the study and the factor loadings (outer loadings) of the constructs. As mentioned, the study uses the two-stage approach. In the first stage, the figure 4.10 shows first order constructs such as usage1, usage2, usage3 of Social media usage construct; impact1 (imp1), impact2 (imp2), impact3 (imp3) of Organization Impact construct, coercive pressure (CP), mimetic pressure (MP) of Institutional Pressure construct and Risk taking propensity (RT), Innovativeness (Inno) from Entrepreneurial orientation constructs are directly connected with other constructs of the study.

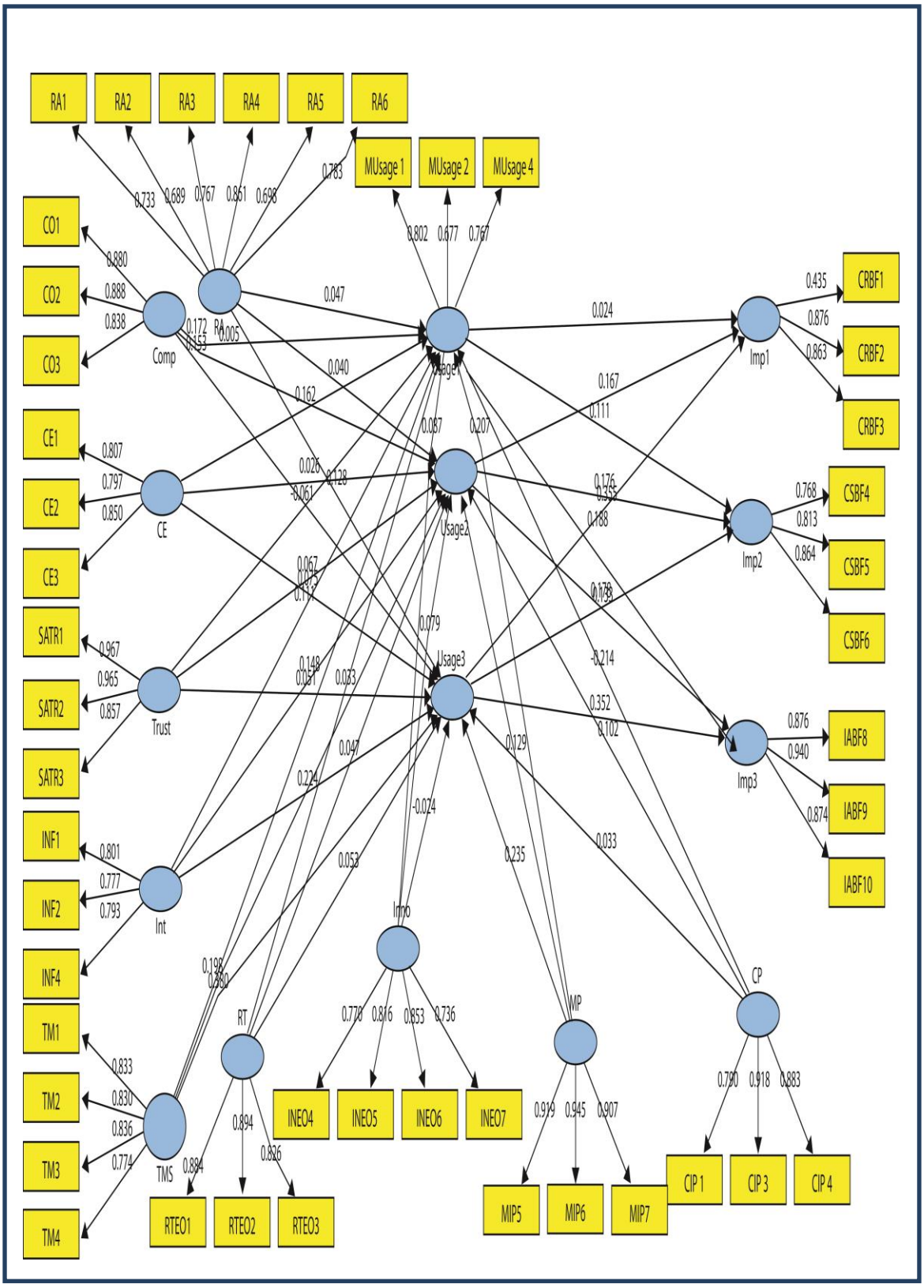


**Figure 4.10: Measurement model with Factor Loadings**

As illustrated on Figure 4.10, most of the indicators' outer loadings are above the threshold value of 0.708. However, three indicators with low loadings and the deletion

of indicators which increased the composite reliability and AVE of the results were removed from the model.

An item from interactivity “Social media sites provide an appropriate amount of interactive features (eg. graphics, popup windows, animation, music, voices) was removed from the model as the removal of this item increased the AVE of the construct. Also, an item from the impact on information accessibility construct “Social media usage enabled easier access to customer information” was removed from the model due to low loading. Similarly, an item from social media use for information search construct “Social media is used to search for general information” was removed from the model.

Loadings of some indicators such as RA2=0.689, RA5=0.698, Usage2=0.674, imp1=0.436 are below 0.7. However, removal of these indicators did not make any changes to AVE or composite reliability; therefore they were retained in the study.

Table 4.19 summarizes the outer loadings of the indicators retained in the model for further analysis.

## Table 4.19: Outer Loadings of the Indicators

| Indicators | Outer loadings | Indicators | Outer loadings |
|---|---|---|---|
| Cost effectiveness (CE1) | 0.8074 | Innovativeness (INEO4) | 0.7700 |
| Cost effectiveness (CE2) | 0.7963 | Innovativeness (INEO5) | 0.8163 |
| Cost effectiveness (CE3) | 0.8502 | Innovativeness (INEO6) | 0.8528 |
| Coercive Pressure(CP1) | 0.7898 | Innovativeness (INEO7) | 0.7364 |
| Coercive Pressure(CP3) | 0.9183 | Usage for Marketing (MUsage1) | 0.8012 |
| Coercive Pressure(CP4) | 0.8830 | Usage for Marketing (MUsage2 | 0.6741 |
| Mimetic Pressure (MI5) | 0.9187 | Usage for Marketing (MUsage4) | 0.7692 |
| Mimetic Pressure (MIP6) | 0.9477 | Usage for customer relations (MUsage5) | 0.8211 |
| Mimetic Pressure (MI7) | 0.9099 | Usage for customer relations (MUsage6) | 0.8584 |
| Compatibility (CO1) | 0.8799 | Usage for customer relations (Musage7) | 0.8166 |
| Compatibility (CO2) | 0.8878 | Usage for customer relations (MUsage8) | 0.8751 |
| Compatibility (CO3) | 0.8382 | Usage for customer relations (MUsage9 | 0.8234 |
| Interactivity (INF1) | 0.8006 | Usage for Marketing (MUsage3) | 0.723 |
| Interactivity (INF2) | 0.7771 | Usage for information search (ISUsage12) | 0.8069 |
| Interactivity (INF4) | 0.7926 | Usage for information search (ISUsage13) | 0.8274 |
| Trust (SATR1) | 0.9671 | Impact on Cost reduction (CRBF1) | 0.436 |
| Trust (SATR2) | 0.9650 | Impact on Cost reduction (CRBF2) | 0.8763 |
| Trust (SATR3) | 0.8575 | Impact on Cost reduction (CRBF3) | 0.8631 |
| Top management support (TM1) | 0.8328 | Impact on customer relations(CSBF4) | 0.7679 |
| Top management support (TM2) | 0.8301 | Impact customer relations(CSBF5) | 0.8127 |
| Top management support (TM3) | 0.8357 | Impact on customer relations(CSBF6) | 0.8639 |
| Top management support (TM4) | 0.7735 | Improved information accessibility (IABF8) | 0.8743 |
| Risk taking (RTEO1) | 0.8844 | Improved information accessibility (IABF9) | 0.8757 |
| Risk taking (RTE02) | 0.8945 | Improved information accessibility (IABF10) | 0.9398 |
| Risk taking (RTE03) | 0.8264 | | |
| Relative advantage (RA1) | 0.733 | | |
| Relative Advantage (RA2) | 0.689 | | |
| Relative Advantage (RA3) | 0.767 | | |
| Relative Advantage (RA4) | 0.861 | | |
| Relative Advantage (RA5) | 0.698 | | |
| Relative Advantage (RA6) | 0.783 | | |

Next, values of composite reliability and average variance extracted (AVE) are reported in Table 4.20. Composite reliability measures the consistency of all dimensions of a construct which can be measured through composite (or construct) reliability coefficients and AVE (Skerlavaj et al., 2007). Though Cronbach's alpha is frequently used as a measure of reliability, composite reliability is a better estimate of reliability (Chin, Marcolin, & Newsted, 1996). Composite reliability can vary between 0 and 1,

and the values greater than 0.6 are considered acceptable (Bagozzi, Yi, & Nassen, 1998).

Convergent validity is based on the correlation between responses obtained by maximally measuring the same construct through different methods (Peter, 1981). Average variance extracted (AVE) is a common measure to examine convergent validity. The minimum acceptable guideline for average variance extracted is 0.5 (Chin, 2010). Therefore, results of the study revealed that the values of the composite reliability are greater than 0.6 and AVE is greater than 0.5 for all the reflective constructs, thus construct reliability and convergent validity is achieved.

**Table 4.20: Construct Reliability and Convergent Validity**

| **Construct** | **AVE** | **Composite Reliability** |
|---|---|---|
| Cost effectiveness | 0.6699 | 0.8588 |
| Coercive pressure | 0.7489 | 0.8991 |
| Compatibility | 0.7550 | 0.9023 |
| Impact on cost reduction | 0.5674 | 0.7846 |
| Impact on customer relations | 0.6655 | 0.8562 |
| Impact on information accessibility | 0.8048 | 0.9251 |
| Innovativeness | 0.6322 | 0.8727 |
| Interactivity | 0.6244 | 0.8329 |
| Mimetic pressure | 0.8533 | 0.9458 |
| Relative Advantage | 0.5737 | 0.8892 |
| Risk taking | 0.7551 | 0.9023 |
| Trust | 0.8673 | 0.9513 |
| Top management support | 0.6698 | 0.8902 |
| Usage for marketing | 0.5627 | 0.7934 |
| Usage for customer relations | 0.7043 | 0.9225 |
| Usage for information search | 0.6194 | 0.8295 |

The next evaluation criterion for reflective models is to check for discriminant validity. It is defined as the dissimilarity in a measurement tool's measurement of different constructs. A necessary condition for discriminant validity is that the shared variance between the latent variable and its indicators should be larger than the variance shared

with other latent variables (Hulland, 1999). In PLS path-modeling, two measures are available to check discriminant validity. One of the criteria to assess discriminant validity is that factor loadings of each item must be greater than the cross loadings of items of other constructs (Bhattacherjee & Sanford, 2006; Pavlou & Gefen, 2004). Appendix 8 displays the results of cross loadings among constructs which shows that the scale items of revised constructs are more strongly loaded on their respective factors than other constructs.

Another method to appraise discriminant validity is based on the Fornell-Larcker criterion. Under this criterion, the square root of AVE for each construct must be greater than inter-correlations with other constructs (Bhattacherjee & Sanford, 2006; Kim & Malhotra, 2005; Sweeney & Soutar, 2001). Table 4.21 presents the square root of AVEs and inter-construct correlations. The highlighted value is the calculated square root of AVE for the construct. The result indicates that the square root of AVE for the constructs is greater than other inter-constructs' correlation value. Therefore this confirms the achievement of discriminant validity. The reflective measurement model has been validated based on composite reliability, indicator reliability, convergent validity, and discriminant validity. The next section presents the evaluation of formative construct.

**Table 4.21: Fornell-Larcker Criterion**

| | CE | CP | Comp | Imp1 | Imp2 | Imp3 | Inno | Int | MP | RA | RT | SA | TMS | Usage1 | Usage2 | Usage3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CE | 0.818474 | | | | | | | | | | | | | | | |
| CP | 0.2368 | 0.86539 | | | | | | | | | | | | | | |
| Comp | 0.2534 | 0.5308 | 0.868907 | | | | | | | | | | | | | |
| Imp1 | 0.3501 | 0.6074 | 0.5423 | 0.75326 | | | | | | | | | | | | |
| Imp2 | 0.2007 | 0.4119 | 0.5423 | 0.3668 | 0.815782 | | | | | | | | | | | |
| Imp3 | 0.2133 | 0.5323 | 0.6571 | 0.5234 | 0.3732 | 0.897106 | | | | | | | | | | |
| Inno | 0.1497 | 0.3116 | 0.4496 | 0.3208 | 0.2639 | 0.3781 | 0.79511 | | | | | | | | | |
| Int | 0.1657 | 0.2435 | 0.2981 | 0.2786 | 0.3354 | 0.4387 | 0.4356 | 0.79019 | | | | | | | | |
| MP | 0.1872 | 0.6595 | 0.4946 | 0.4789 | 0.3535 | 0.5811 | 0.2018 | 0.2514 | 0.923742 | | | | | | | |
| RA | 0.2683 | 0.4733 | 0.6528 | 0.4442 | 0.445 | 0.591 | 0.3814 | 0.2814 | 0.5557 | 0.7574 | | | | | | |
| RT | 0.1434 | 0.421 | 0.355 | 0.4384 | 0.1615 | 0.3791 | 0.4523 | 0.2854 | 0.3509 | 0.3453 | 0.868965 | | | | | |
| SA | -0.0148 | -0.0446 | -0.0587 | -0.1079 | -0.0274 | -0.1444 | -0.0623 | -0.1227 | -0.094 | -0.1765 | -0.04554 | 0.931289 | | | | |
| TMS | 0.2222 | 0.4786 | 0.5147 | 0.5219 | 0.4897 | 0.4615 | 0.5054 | 0.3698 | 0.403 | 0.5186 | 0.3774 | -0.15334 | 0.818413 | | | |
| Usage1 | 0.2941 | 0.2475 | 0.4789 | 0.295 | 0.2707 | 0.458 | 0.3512 | 0.3377 | 0.357 | 0.4548 | 0.2618 | -0.13221 | 0.3999 | 0.750133 | | |
| Usage2 | 0.1734 | 0.3824 | 0.4095 | 0.3635 | 0.3021 | 0.4484 | 0.3229 | 0.3224 | 0.3681 | 0.5038 | 0.2886 | 0.0045 | 0.3463 | 0.5165 | 0.839226 | |
| Usage3 | 0.2347 | 0.3912 | 0.4116 | 0.4538 | 0.2813 | 0.5369 | 0.2786 | 0.3968 | 0.4459 | 0.4482 | 0.288 | -0.032 | 0.3898 | 0.519 | 0.5167 | 0.78702 |

### 4.3.10.3 Evaluation of Second Order Formative Construct

As for reflective constructs, the construct validity and reliability should not be conducted in the same manner for formative measures, given the differences between reflective and formative constructs (Petter, Straub, & Rai, 2007). The validity of formative constructs is assessed by checking multicollinearity and the significance of weights. The first step is to check for multicollinearity. For formative constructs, high

correlations between indicators which lead to the problem of collinearity are not expected. The estimation and statistical significance of the weights is affected if there are high levels of collinearity between the indicators of formative constructs (Hair et al., 2013). To assess collinearity, the tolerance and VIF (Variance Inflation factor) values between the indicators of the construct can be computed. A tolerance value 0.1 or lower and a VIF value of 10 and higher respectively indicate a collinearity problem (Hair et al., 2006).

In this study collinearity was assessed for the sub-constructs (LOC) of formative second order social media usage constructs, and it was found that there are no collinearity issues. Table 4.22 shows the results of collinearity diagnosis for formative second order social media usage constructs :-

**Table 4.22: Multicollinearity Check for Social Media Usage**

| Construct | VIF(Variance Inflation Factor | Tolerance |
|---|---|---|
| Usage for marketing | 1.514 | 0.660 |
| Usage for customer relations | 1.573 | 0.636 |
| Usage for information search | 1.523 | 0.654 |

The VIF values for the three sub-constructs (LOC) of social media usage were 1.514, 1.573, and 1.523. The values are below 10 and tolerance values were also found to be higher than 0.1, so no sign of multicollinearity was found for social media usage construct.

Another important criterion for evaluating the formative indicator and its relevance is by reading its outer weight. Diamantopoulos and Winklhofer (2001) suggested that if any of the indicator outer weightings for formative measures are insignificant, it may be appropriate to remove the insignificant indicators (one at a time) until all paths are

significant and a good fit was obtained (Petter et al., 2007). The values of the outer weight of the formative indicators can be compared with each other to determine each indicator's relative importance to the construct (Hair et al., 2013).

This study uses second order formative constructs; during the 2nd stage of the analysis the latent variable scores (LVS) of the first order constructs were used as indicators for second order constructs. Therefore the outer weights of the indicators of second order formative construct were obtained. Via bootstrap, the significance of the indicators was identified. Table 4.23 summarizes the outer weights significance test results of the second order formative construct (Social media usage).

**Table 4.23: Outer Weights Significance Testing Results**

| **Formative indicators (LVS of first order constructs)** | **Outer Weights (Outer Loadings)** | **t-value** | **Significance level** |
|---|---|---|---|
| Usage1(Usage for marketing) | 0.318 (0.7758) | 2.034 | ** |
| Usage2(Usage for customer relations | 0.323 (0.7775) | 2.590 | *** |
| Usage3(Usage for information search) | 0.562 (0.8938) | 4.825 | *** |

*** p<0.01 (>2.58), **p<0.05 (>1.96), p<0.10 (>1.645)

The significance level showed that all the formative indicators were significant. Usage2 and Usage3 are significant at 1%, and Usage1 is significant at 5%. The outer loadings of all the three indicators are above 0.708 and the t-values are clearly above 1.96. Therefore the analysis of outer weights of the formative indicators is significant and appropriate to be included in the study for further analysis.

### 4.3.10.4 Evaluation of Second Order Reflective Constructs

The evaluation of second order reflective constructs is similar to the assessment of first order reflective constructs. This study modeled three second order reflective constructs

namely institutional pressure which has two first order constructs; coercive and mimetic pressures, entrepreneurial orientation with risk taking propensity and innovativeness as first order constructs, and organizational impact with three reflective first order construct namely impact on cost reduction, impact on customer relations & services and impact on information accessibility. Similar to the second order formative constructs, during the 2nd stage of analysis, the LVS of first order reflective constructs were used as indicators for second order reflective constructs. The composite reliability, AVE, and outer loadings were evaluated for the second order reflective constructs during 2nd stage of analysis. The Table 4.24 summarizes the evaluation results of the second order reflective constructs.

**Table 4.24: Evaluation of Second Order Reflective Constructs**

| **Reflective Constructs/Indicators** | **AVE** | **Composite Reliability** | **Outer Loadings** |
|---|---|---|---|
| Organization impact | 0.6120 | 0.8237 | - |
| Impact1(imp1) | - | - | 0.809 |
| Impact2(imp2) | - | - | 0.659 |
| Impact3(imp3) | - | - | 0.809 |
| Institutional Pressure | 0.8292 | 0.9066 | |
| Coercive Pressure(CP) | - | - | 0.898 |
| Mimetic Pressure(MP) | - | - | 0.923 |
| Entrepreneurial Orientation | 0.7258 | 0.8411 | |
| Risk taking(RT) | - | - | 0.836 |
| Innovativeness(Inno) | - | - | 0.867 |

The results report the composite reliability and AVE of only the second order constructs, as the first order constructs have been evaluated previously. The AVE of organizational impact was 0.6120, institutional pressure was 0.8292, and entrepreneurial orientation was 0.7258. The AVE values of all the second order constructs were well above the cut-off value 0.5. The composite reliability of organizational impact was 0.8237, institutional pressure was 0.9066 and entrepreneurial orientation was 0.8411.

All the reliability values are above the threshold of 0.70 thus supporting internal consistency reliability.

The outer loadings of the indicators of second order constructs were well above the critical value of 0.70. The only exception was impact2 (0. 659); however since the value was above 0.65 and the criteria for composite reliability and convergent validity were met, the impact2 was retained for further analysis. Thus the evaluation of reflective, formative, second order reflective and second order formative constructs were assessed. Therefore the study proceeds with the evaluation of Structural Model.

#### 4.3.10.5 Assessment of Structural Model

Once the construct measures were found to be reliable and valid, the next step was the assessment of the structural model. This investigated the research model's predictive capabilities and the relationship between the constructs. The important criterion to assess the structural model was the estimates of path coefficients and $R^2$. The estimated values for path relationships in the structural model should be evaluated in terms of sign and magnitude. The significance of the hypothesized relationship was estimated through bootstrapping. Figure 4.11 shows the structural model with path coefficients and $R^2$ value.

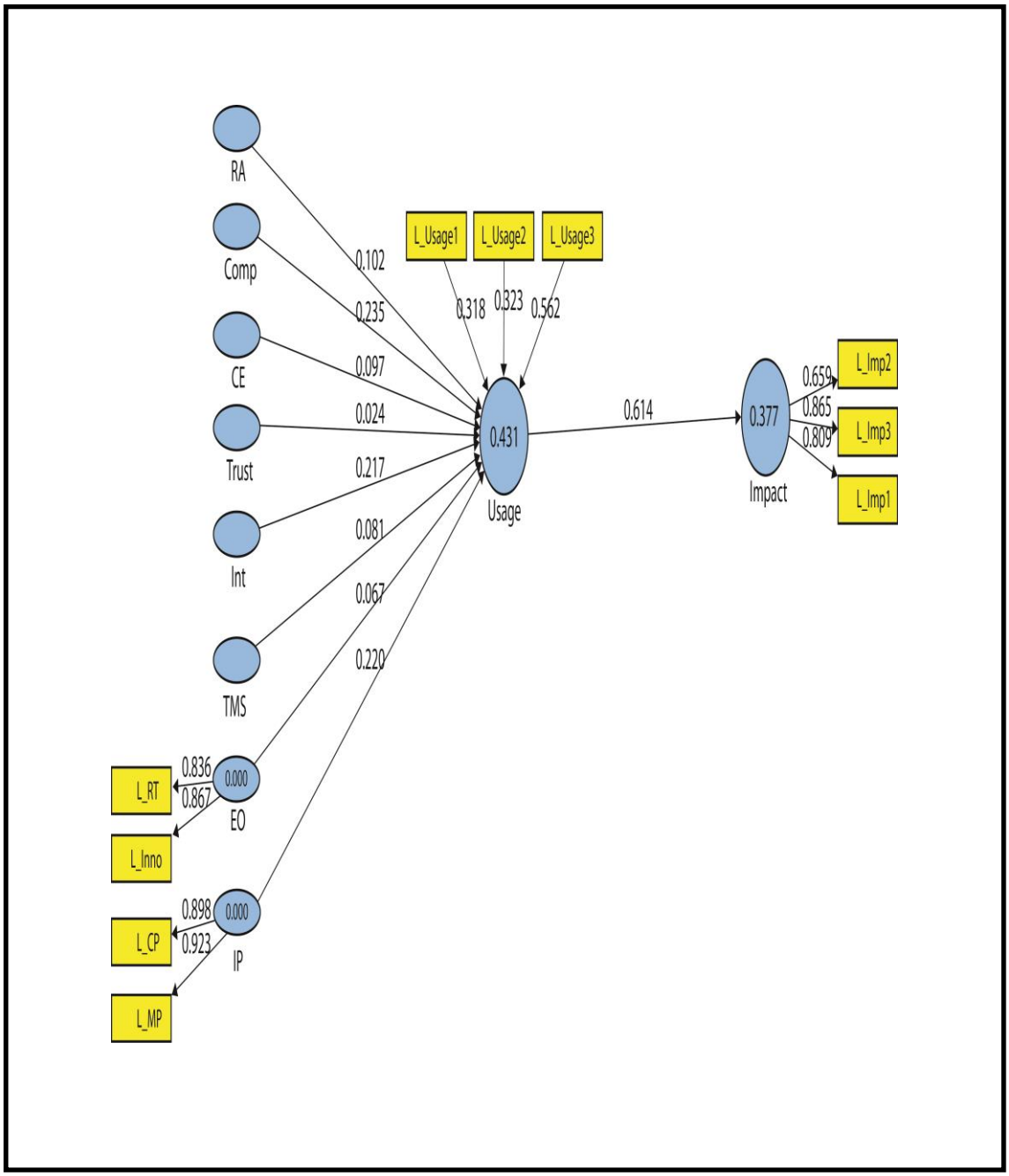


**Figure 4.11: Path Coefficient Values**

The main criterions to assess the structural models are the $R^2$ of endogenous latent values. $R^2$ values of 0.67, 0.33 or 0.19 for endogenous latent variables in the inner path model were described as substantial, moderate or weak by Chin (1998). This study shows the $R^2$ value for the endogenous latent variables social media usage was 0.43 and organizational impact was 0.38, which is considered as moderate. Another important criterion to assess structural model is the estimates of path coefficients. The estimated

values for path relationships in the structural model should be evaluated in terms of sign and magnitude. The path coefficients have standardized values between -1 to +1. The path coefficients close to +1 represent strong positive relationship and the one close to -1 represents strong negative relationship. The path coefficient values close to 0 illustrates weaker relationships. Very low values close to 0 are usually not significant (Hair et al., 2013).

The study results showed that the relationship between social media usage and impact may be strong, as the path coefficient value was 0.614, whereas the relationship between trust (0.024), top management support (0.081), entrepreneurial orientation (0.067), cost effectiveness (0.097), and social media usage were weak as the path coefficient values were close to 0. Therefore, in order to test the significance of the hypothesized relationship, bootstrapping was applied.

The bootstrapping procedure provides the t-value which indicates whether the corresponding path coefficient is significantly different from zero (Hair et al., 2006). When the size of the resulting empirical t-value is above 1.96, it can be assumed that the path coefficient is significantly different from 0 at a significance level of 5 percent ($\alpha = 0.05$; two-sided test). The critical t-values for significance levels of 1 percent ($\alpha = 0.01$; two-sided test) and 10 percent ($\alpha = 0.10$; two sided test) probability of error are 2.57 and 1.65, respectively. Figure 4.12 demonstrates the assessment of structural model with t-values.

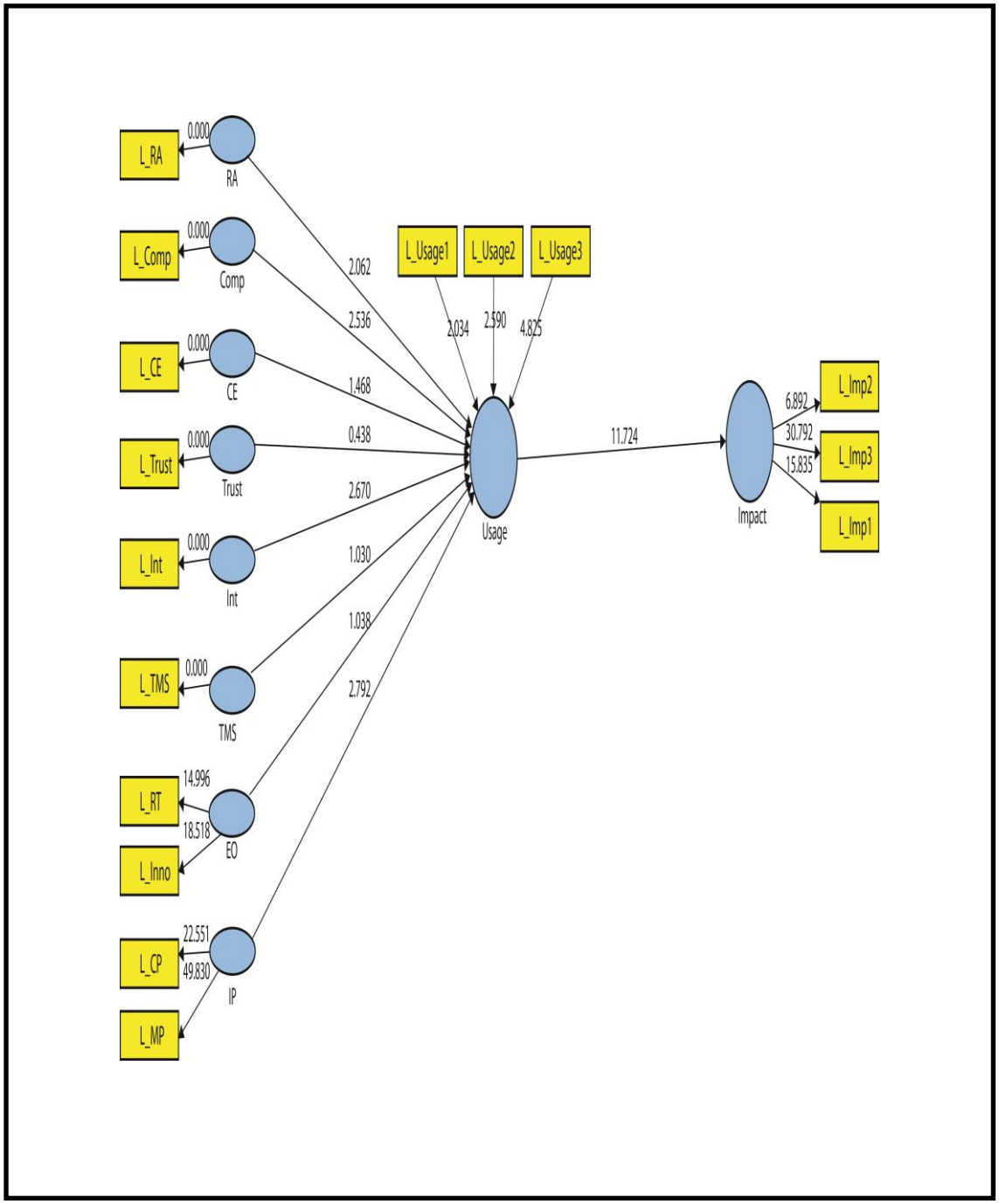


**Figure 4.12: Assessment of Structural Model**

The result of the path coefficients and t-values showed that relative advantage, interactivity, compatibility and institutional pressure with t-value >1.96 significantly influences social media usage in organizations. Similarly, social media usage with t-value >2.67 significantly have an impact on the organizations in terms of cost reduction,

improvement in customer relations and service, and enhancement in information accessibility. More detailed explanations for the results of hypothesis testing are elaborated in the next sections.

#### 4.3.10.6 Results of Hypothesis testing

The results summary of the hypotheses testing is summarized in Table 4.25.

**H1: Relative advantage of social media positively influences social media usage.**

H1 proposes that relative advantage of social media will positively influence social media usage. The coefficient for the path from relative advantage to social media usage was positive and significant at 5 % significance level (β=0.102, t=2.062) which supports H1.

**H2: Compatibility of social media positively influences social media usage.**

H2 proposes that compatibility of social media positively influences social media usage. The coefficient for the path from compatibility to social media usage was positive and significant at 5% significance level (β=0.235, t=2.536) which supports H2.

**H3: Cost effectiveness of social media positively influences social media usage.**

For H3, it was posited that cost effectiveness of social media technology will positively influence social media usage. The result showed that the path coefficient value was insignificant (β=0.097, t=1.468), therefore H3 is not supported.

**H4: Trust on social media (structural assurance) positively influences social media usage.**

H4 proposes that trust on social media sites in terms of structural assurance positively influences social media usage, but the coefficient value was not significant (β= 0.024, t=0.438), therefore H4 is not supported.

**H5: Interactivity of social media positively influences social media usage in organizations.**

H5 posited that the interactive nature of social media will influence social media usage. The path coefficient value was found to be significant (β=0.217, t=2.670) at 1% significance level. Thus H5 was supported.

**H6: Top management support positively influence social media usage in organizations.**

H6 recommends that top management support positively influence social media usage, but the results of the study revealed that the path coefficient value for this relationship was not significant (β=0.081, t=1.030) proving that H6 is not supported.

**H7: Entrepreneurial orientation of the firm positively influences social media usage.**

H7 proposes that entrepreneurial orientation of an organization have a positive impact on social media usage. The coefficient value was found to be insignificant (β=0.067, t=1.038). Thus H7 is not supported.

**H8: Institutional Pressure positively influences social media usage.**

H8 posited that institutional pressure such as coercive and mimetic pressure positively influence social media usage and it was also supported in the study with significant path coefficient and t-values (β=0.220, t=2.792) at 1% significance level.

**H9: Social media usage will have a positive impact on organizations.**

Finally, H9 recommends that social media usage will have positive impact on the performance of the organization in terms of cost reduction, improvement in customer relations, and improvement in information accessibility. The path coefficient value was significant at 1% significance level (β=0.614, t=11.724). Thus H9 is supported. Therefore it was found that the social media usage benefits the organization by reducing the cost of marketing and customer service activities, by improving customer service, and improving the competitiveness and easier information accessibility.

**Table 4.25: Summary of Hypotheses Testing**

| **Hypothesis** | **Beta** | **T-value** | **Result** |
|---|---|---|---|
| H1: Relative advantage of social media positively influences social media usage | 0.102** | 2.062 | Supported |
| H2: Compatibility of social media positively influences social media usage | 0.235** | 2.536 | Supported |
| H3: Cost effectiveness of social media positively influences social media usage. | 0.097 | 1.468 | Not Supported |
| H4: Trust on social media (structural assurance) positively influences social media usage | 0.024 | 0.438 | Not Supported |
| H5: Interactivity of social media positively influences social media usage in organizations | 0.217*** | 2.670 | Supported |
| H6: Top management support positively influence social media usage in organizations. | 0.081 | 1.030 | Not Supported |
| H7:Entrepreneurial orientation of the firm positively influence social media usage | 0.067 | 1.038 | Not Supported |
| H8: Institutional Pressure positively influences social media usage | 0.220*** | 2.792 | Supported |
| H9: Social media usage will have a positive impact on organizations | 0.614*** | 11.724 | Supported |

*** p<0.01 (>2.58), **p<0.05 (>1.96), p<0.10 (>1.645)

The next section describes the differences in the research model while controlling for variables such as industry, organization size, and organization age. Since the respondents are from different industries, it is important to control for industry. Similarly the responses for the survey were from large, small, and medium-sized organizations, so the organizational sizes were used as a control variable as well. Further, years in operation might also affect the results; therefore organizational age was also included as a control variable in this study. The result that portrays the differences in the model with and without controlling for the abovementioned variables is discussed in the next section.

#### 4.3.10.7 Control variables

With regard to control variables, following the study of Fichman and Kemerer (1997), three models were used; the full model, the theoretical model, and the control model. These three models were estimated to provide a basis for assessing the true impact of the theoretical variables and to rule out alternative explanations (Teo et al., 2003). Comparison between the full model and the control model shows that the full model explains a substantive incremental variance of (37.7%-4.2%) 33.5%. In contrast, the incremental variance derived by comparing the full model and the theoretical model amounted to a mere 1.9%. Since the difference is small, the results suggest that the theoretical model was substantive enough to explain a large proportion of the variance in organizational impact derived from social media usage.

Table 4.26 lists the path coefficients of all the variables including control variables. Examining the theoretical model and the full model revealed that five hypothesis regarding interactivity and usage, relative advantage and usage, compatibility and

usage, institutional pressure and usage, and finally social media usage and impact, were significant in both cases indicating strong support for the model. And it was also found that out of three control variables, one variable which was the organizations' ages, had a significant negative impact on organizational performance; others were not significant.

**Table 4.26: Results Including Control Model**

| | **Path coefficients** | | |
|---|---|---|---|
| **Constructs** | **Full Model** | **Theoretical Model** | **Control Model** |
| Relative Advantage | 0.101** | 0.102** | |
| Compatibility | 0.235** | 0.235** | |
| Cost efficiency | 0.098 | 0.097 | |
| Trust | 0.025 | 0.024 | |
| Interactivity | 0.217*** | 0.217*** | |
| Top management support | 0.081 | 0.081 | |
| Entrepreneurial orientation | 0.067 | 0.067 | |
| Institutional pressure | 0.219*** | 0.220*** | |
| Social media usage | 0.601*** | 0.614*** | |
| Industry | 0.052 | | 0.053 |
| Organization size | 0.064 | | 0.023 |
| Organization age | -0.144 | | -0.207 |
| Variance explained by organization impact (R square) | 37.7% | 39.6% | 4.2% |

*** p<0.01 (>2.58), **p<0.05 (>1.96), p<0.10 (>1.645)

### 4.3.10.8 Analysis of Effect Size $f^2$

In addition to evaluating the $R^2$ values of endogenous constructs, the change in $R^2$ when the exogenous latent variable in the structural model was either excluded or included, defined the effect size. According to Chin (1998), values of 0.02, 0.15 and 0.35 specify whether latent exogenous variables have a small, medium, or large effect (Hock & Ringle, 2010). Table 4.27 results showed that the value of $f^2$ for all the constructs has small effect on social media usage. This showed that all the constructs together predict social media usage. Furthermore, for the dependent variable as shown in Table 4.27, the

values for Usage1 and Usage2 constructs have small effect but the value of Usage3 (0.126) which is the social media usage for information search constructs shows slightly higher effect compared to other two variables.

**Table 4.27a: Effect size of Variables**

| **Latent Exogenous variable** | **$R^2$ Included** | **$R^2$ Excluded** | **Effect-size $f^2$** |
|---|---|---|---|
| Relative Advantage | 0.431 | 0.422 | 0.016 |
| Compatibility | 0.431 | 0.400 | 0.054 |
| Cost efficiency | 0.431 | 0.422 | 0.016 |
| Trust | 0.431 | 0.431 | 0.000 |
| Interactivity | 0.431 | 0.397 | 0.060 |
| Top management support | 0.431 | 0.428 | 0.005 |
| Entrepreneurial orientation | 0.431 | 0.429 | 0.004 |
| Institutional pressure | 0.431 | 0.406 | 0.042 |

Endogenous Variable: Social media usage

**Table 4.27b: Effect size of Variables**

| **Latent Exogenous variable** | **$R^2$ Included** | **$R^2$ Excluded** | **Effect-size $f^2$** |
|---|---|---|---|
| Usage 1 (Social media usage for marketing) | 0.377 | 0.365 | 0.019 |
| Usage 2 (Social media usage for customer relations) | 0.377 | 0.349 | 0.045 |
| Usage 3 (Social media usage for information search) | 0.377 | 0.287 | 0.126 |

Endogenous variable: Social media impact

## 4.4 Summary

In this chapter the results of the three phases of the study was reported. In the first phase, the result of web content analysis was presented, which identified the most widely used social media tools among organizations in Malaysia, and also the level of usage using the disclosure, information dissemination, and interactivity strategies. The results of Phase I helped to identify the organizations that use social media effectively

and to interview them during the Phase II of the study. In Phase II, the backgrounds of the six organizations that were interviewed were reported, followed by the presentation of the interview results. The results of the interviews such as the items for social media usage constructs (various purposes for which the organizations use social media), the factors that influence social media usage, and also the impact of social media usage on organizational performance was elaborated. Apart from these results, other issues such as reputation management, productivity problems when using social media was also discussed. The results of the Phase II of the study helped to develop the measures for social media constructs and the research model was developed, which was then tested and validated in the Phase III of the study.

Finally, the results of Phase III were presented. Initial analysis such as descriptive statistics, test of normality, test of common method bias, test for non-response bias, and test for multicollinearity was reported. Furthermore, the results of reliability analysis and exploratory factor analysis were also presented. Using the PLS method, the research model was assessed in two steps; first being the assessment of the measurement model, where the results of factor loadings, composite reliability, discriminate reliability and cross loadings were evaluated. Then the results of structural model, in which the hypothesis were tested using the measures of path coefficients, t-values, and $R^2$, were reported. The results of the effect size of the independent variables were also discussed.

In the next chapter, summary of the research is presented. The results of the study are discussed and compared with previous studies. The theoretical and practical contributions of the study are then discussed. The limitations of the study are highlighted and also the directions for future studies are presented.

# CHAPTER 5 CONCLUSION

## 5.0 Introduction

This chapter consists of six sections. In the first section, the research summary is presented. The appropriateness and validation of mixed method research are discussed in section two. Section three provides the key findings of the study and discussions of the results. In this section, results achieved are compared with those of other similar studies identified in literature. In the fourth section the theoretical and practical contributions of the study are discussed. Limitations to this study are highlighted in section five. The last section suggests further areas of research directions that might be useful to build on this study.

## 5.1 Summary of Research

The main aim of this research is to investigate the impact of social media usage among organizations. The study developed the following four main research questions :-

Question (1): What are the social media tools currently used by the organizations in Malaysia?

Question (2): What is the level of social media usage among organizations?

Question (3): What are the factors that influence the usage of social media?

Question (4): How social media usage benefits organizations?

The study attempted to answer the research questions by achieving the following research objectives :-

Objective (1): To identify the most widely used social media tools in Malaysia.

Objective (2): To analyze the level and purpose of social media usage among Malaysian organizations using the relationship cultivation strategies.

Objective (3): To investigate the factors that influences the social media usage in organizations.

Objective (4): To ascertain the impact of social media usage on organizations.

As a first stage of the research, a thorough literature review and content analysis was carried out. Content analysis was conducted to identify the type, subject, and other aspects of social media research. Based on the results of the content analysis on 201 articles, it was found that most of the studies were conducted on an individual perspective in the context of developed countries. The studies mostly used quantitative methods with less theory base. Therefore this was one of the motivations to conduct the current study on organizational perspective in Malaysia using mixed methods, and with a proper theoretical background.

Based on the results of the content analysis and review of literature, the gap, research questions, and objectives were identified. Then, in order to precede the study, it is important to identify the organizations that were using social media. Using web content analysis, the organizations that were using social media was identified; the various social media tools used by them and the levels of usage were analysed using the relationship cultivation strategy framework.

After identifying the organizations, Senior Managers from six organizations were interviewed regarding the various purpose of social media usage, factors that influenced social media usage in their organizations, impact of social media usage, and other issues on the topic were discussed. Using constant comparison methods, the categories were identified from the interview transcripts. Based on the interview findings, the measures for social media construct, the theory and framework that is suitable for the study was identified.

The Technology, Organization, and Environment (TOE) framework along with institutional theory, diffusion of innovation theory, resource based view theory, and the DeLone and McLean IS success model were integrated to form the research model for the study. For the survey questionnaire, the items for social media usage were developed through interviews; all the other items were adapted from previous studies. The items were pre-tested following the content validity procedure. Eight purposely chosen experts were asked to review the draft of questionnaire items to ensure whether it was consistent with the constructs. Based on the value of content validity index (CVI), except two items, others were retained for further analysis.

Next, in order to assess the reliability of the questionnaire, a pilot study was conducted with response from 31 organizations that were using social media. The internal consistency reliability was assessed using Cronbach's alpha value. All the items were found to be reliable with Cronbach's alpha greater than 0.7. Following the pilot study, the online questionnaire for the main study was developed on Survey monkey website, and a link was emailed to all the organizations that were using social media which was previously identified from the web content analysis.

The questionnaires were sent to 664 organizations, among which 174 replied showing the response rate of 26%. Among 174 responses, three questionnaires were removed as it was incomplete. The remaining 171 responses were transferred to the IBM SPSS 20.0 software to perform basic analysis such as descriptive analysis, normality checks, and exploratory factor analysis (EFA) etc. The main analysis used the Partial Least Square (PLS) method, and the analysis was performed using SmartPLS 2.0 software. Under PLS method, the inner model (measurement model) and outer model (structural model) were evaluated.

As a first stage, the measurement model was evaluated by assessing the factor loading, composite reliability, average variance extracted (AVE), and discriminantt validity. Items with factor loading values greater than 0.5 were considered to be very significant (Hair et al., 1995). Therefore the results of the study revealed that except three items, all the other items were retained in the study for further investigation. The results of composite construct reliabilities were within the generally recommended range greater than 0.6 (Bagozzi, Yi, & Nassen, 1998) and AVE was greater than 0.5 (Henseler & Chin, 2010). Thus construct reliability and convergent validity were achieved. Then, discriminant validity was conformed based on the criteria that factor loadings of each item was greater than the cross loadings of items of other constructs, and the square root of AVE for each construct was greater than inter-correlations with other constructs. Thus, discriminant validity was achieved.

The next step was the assessment of the structural model which was assessed using the $R^2$ value, path coefficients, and effect size. The results showed that the $R^2$ value for the dependent variables social media usage is 0.43 and organization impact is 0.38 which is

considered as moderate. Secondly, the results of path coefficients and subsequent bootstrapping t-values showed that of the nine hypotheses, five were supported.

Next, since mixed methods were used in this study, it is important to discuss the validity of mixed method research. The next section discusses the appropriateness and validity of mixed method research based on the Venkatesh et al. (2013) guidelines.

## 5.2 Appropriateness and Validity of Mixed Method Research

Based on the research questions, mixed methods were used in this study to achieve the objectives. Both qualitative and quantitative research methods were used to gain complementary views about the organizational usage of social media in Malaysia. This study is based on the developmental design where the constructs were identified, and the research model was developed using the interview method; the hypotheses were tested using survey method following the sequential mixed method approach. Since this study uses a developmental design, a sequential mixed methods approach is more suitable than a concurrent or parallel approach (Venkatesh et al., 2013). In terms of data analysis, appropriate techniques were used for both qualitative and quantitative phases of the study. The data from the qualitative phase of the study was analyzed using coding and constant comparison method. Hypothesized relationships of the quantitative phases of the study were analyzed using the PLS method.

The results of the qualitative phase showed that relative advantage, compatibility, cost, interactivity, top management support, entrepreneurial orientation, and institutional pressures were the factors that influence social media usage. Based on past literature, the factor of trust was also added to the quantitative phase of the study to test its

relationship with social media usage. However the results of the quantitative analysis found that only factors such as relative advantage, compatibility, interactivity, and institutional pressure were identified as influential factors for social media usage. The possible explanations for the insignificant results on the remaining factors are discussed in section 5.3.4.

As a means of providing stronger meta-inferences for the study, both the qualitative and quantitative findings found that social media usage has a strong positive impact on the organizational performances in terms of cost reduction in marketing and customer service activities, enhanced customer relations, and improved information accessibility.

### 5.2.1 Application of Validation Framework

Venkatesh et al. (2013) suggested that mixed method research can be validated based on two aspects of inference quality. Inference quality refers to validity in mixed method research (Teddlie & Tashakkori, 2003, 2009) and two aspects of inference quality that are used to check the validity of mixed method research are design quality and explanation quality. Design quality emphasizes the degree to which a researcher has selected the most appropriate procedures for answering the research questions (Teddlie & Tashakkori, 2009). Design quality can be further investigated based on design suitability or appropriateness, design adequacy, and analytic adequacy. The second aspect of inference quality is explanation quality which emphasizes the degree to which credible interpretations have been made of obtained results (Lincoln and Guba, 2000; Tashakkori and Teddlie, 2003b). This can be further investigated based on quantitative inference, qualitative inferences, and integrative inferences/meta-inference.

For this study, under design quality the appropriateness for using qualitative (interviews) and quantitative (survey) methods were clearly stated in Chapter 3. Further, this study used the sequential mixed method approach, mainly because it follows the developmental design. For the design adequacy, both qualitative and qualitative phases of the study were implemented with acceptable quality and rigor. For instance, the validity of the qualitative phase of the study was assessed by three measures such as credibility, confirmability, and transferability, and was explained in section 3.3.3.2. Similarly, the validity of the quantitative phase of the study was assessed using indicators such as reliability and validity, and was explained in section 3.6. Proper explanation and appropriateness for using both qualitative (constant comparison method, see Section 3.3.3.2) and quantitative data analysis technique (PLS, see Section 3.7) were also discussed in Chapter 3.

Explanation quality (as discussed earlier, the quality of qualitative phase of the study) is validated based on indicators such as credibility, confirmability, and transferability, and the findings of the interviews were consistent with previous studies (see Section 4.2.11). Similarly, for quantitative inferences, indicators such as internal validity and external validity were assessed. The findings of the quantitative phase of the study were compared with previous studies and it was found that the results are consistent. Similarly, in order to ensure the quality of meta-inference, integrated discussion on the results of both phases of the study are demonstrated in Section 5.2.4 and Section 5.2.5.

This study provided a clearer understanding regarding the usage of social media and its impact on organizational performances using mixed methods such as interviews and survey. The study gave a holistic view of social media usage among organizations from different industries and sizes, thus providing higher possibilities to transfer these results

to other contexts. The findings from the quantitative study provided additional insights to the findings of the qualitative study. Further, the qualitative study was used to develop items for a social media usage construct. It also helped to identify the appropriate constructs and hypotheses which was then tested and validated using the survey method. Thus the meta-inference from the study had supported the purpose of complementary and developmental approach of the study. Therefore, this shows that the current study had satisfied the validity measures for mixed method research. The next section discusses the findings of the study in detail.

## 5.3 Discussion of the Findings

In this section, the findings of the study are discussed in detail. In order to answer the first two research questions, the web content analysis method was used.

### 5.3.1 Social Media Used by Organization

The results showed that among 7910 organizations' websites browsed, only 664 organizations had presence on social media. Nearly 91% of the organizations were using Facebook, followed by Twitter which was used by 49% of the organizations. About 25% of organizations were using Google+ and 14% of the organizations posted videos and photos on YouTube and Flickr. Nearly 14% of the organizations had their own corporate blog. About 5% of the organization used RSS feed and 3% of the organizations used other social media tools like Instagram, LinkedIn etc. Results showed that Facebook was the most widely used social media tool among organizations in Malaysia. The result is obvious because Facebook is the most popular social media site in Malaysia. A premier ranking website ranked Facebook as number one most

visited site among 100 sites in Malaysia (Alexa.com, 2010; Ayu & Abrizah, 2011). The result implies that all the organizations want to have a presence in a place where the public spend their time.

The findings also revealed that organizations in Malaysia started to use social media from 2008. Many organization began its presence in the year 2010(32%) and 2011(30%). Although they may have the presence in the last couple of years, the number of likes in Facebook Fan page shows that among 567 organizations that have an official Facebook page, nearly 29% of organizations have likes between 100 and 1000, 25% of organizations had likes between 1000 to 10000, and 16% of organizations had likes between 10000 and 100000. This illustrated that the level of Facebook interactivity is relatively moderate. The organizations must work harder to increase the number of likes as it enables them to reach more people which in turn create opportunities to convert them into potential customers.

### 5.3.2 Level of Social Media Usage

To investigate the level of usage, the disclosure, information dissemination, interactivity and involvement framework was used as a basis for analysis. Overall, the average uses of all the strategies showed that interactivity/involvement strategy featured (58%) are widely used by organizations in Malaysia. Organizations are using various interactive features of social media to communicate with the public and also to respond to user comments. Next, the information dissemination (54%) strategy features are widely used.

The results also found that only an average of 45% of the organization discloses organizational information to public which is less compared to the other two strategies.

This showed that organizations that were using social media were trying to use features that enabled interactive communication with the public; however, the disclosure level is still relatively low, therefore organizations must open up and disclose more details and deliver more information to the public which would enhance the relationship between the public and organizations. Therefore the web content analysis answered research questions one and two (level of usage) as discussed above.

In order to answer research questions two (purpose of usage), three and four, qualitative interviews followed by the survey method was used. In the second phase of the study in-depth semi-structured interviews were used to collect data. Six organizations were selected with high usage and semi-structured face-face interviews were conducted with the top managers of the organizations. The main purpose of the interviews were to identify the factors that influence the organizations to use social media, the various purpose of social media usage and the benefits from social media usage.

### 5.3.3 Purpose of Social Media Usage

The findings from the interviews were used to develop the items for the usage construct. It was found that social media in organizations is mainly used for advertising and promoting the organizations' product and services. Advertising on social media will reach more people, as people are spending most of their time on social media sites such as Facebook and Twitter. Consumers are turning away from the traditional sources of advertising such as radio, television, magazines, and newspapers (Rashtchy et al., 2007; Vollmer & Precourt, 2008). They are turning more frequently to various types of social media to conduct their information searches and to make their purchasing decisions (Lempert, 2006; Vollmer & Precourt, 2008).

It was also found that social media is used for conducting market research, especially to get customer feedback on existing products and services, and also opinions about upcoming new products and services. Social media is also used to reach new customers, to get referrals and to enhance word-of-mouth communication. Through social media sites like Facebook, the organizations can ask their customers or fans to share a particular link and recommend a product or service to their friends. Marketers are beginning to understand the use of social media as a component in their marketing strategies to reach out to customers (Tanuri, 2010; Akar & Topcu, 2011).

Another very important aspect for which social media was highly used is to develop good relationship with customers and to have effective communication with customers. Social media tools help organizations to have two-way communication with customers. This continuous communication with customers can be used for solution development by utilizing customer opinions in making key product decisions (IBM, 2007; Zyl, 2009). The results also demonstrated that social media is used for customer service activities by answering customer queries directly via social media and also directing them to the right place for more in-depth services. These identified purpose measures were used as the items for the usage construct in the third phase of the study.

#### 5.3.4 Factors Influencing Social Media Usage

The qualitative analysis results for the influential factors revealed that the interactive nature of the technology influenced organizations to use social media. Social media is very interactive which helps to receive immediate response from customers. Social media contains various features that enhance the communication between public and organizations.

Further, organizations also wanted to use social media because of its value to the business. Using social media is an advantage to organizations as it is expected to increase business opportunities, helps organizations to improve in various areas such as customer service, build good customer relations, and also improves their competitiveness. Previously organizations use print media, televisions, and even emails to advertise their products; now social media is an attractive additional media where the organizations can market their products in an interactive manner.

Moreover, social media is a very simple and compatible innovation; it aligns well with the business strategy and helps the organizations to achieve business goals. Results from the interviews found that the compatibility of social media with the organizations was one of the factors that influenced organizations to use social media. Next, the Senior Managers of the organizations stated that social media was a cost effective technology; it helps organizations to engage with customers at relatively low cost. Even though social media usage for organizations was not free of cost (running Facebook or Twitter campaigns will require investments and need staffs to manage the social media page), but still investments for social media is minimal compared to other media. Therefore cost effectiveness of social media was considered as an important factor for adopting social media in organizations.

Meanwhile without top management support, it is difficult to adopt any new technology in organizations; the participants from the organizations said that in order to use social media top management support was one of the biggest motivation. They further claimed that since reputation management is one of the issues in social media adoption, top management initially hesitated to adopt social media, however after understanding the value that can be retrieved from social media; top management provided complete

support to use social media in organizations. The results also revealed that organizations that are innovative whom intended to try innovative ways to do business and were ready to take risk were those that adopt technology like social media quickly. Therefore the entrepreneurial orientation of the organization was an important factor in social media adoption.

Today consumers are using social media like Facebook and Twitter extensively. The consumers expect the organizations to have a Facebook page so that they can get information about the product and services. Many organizations have already started to use social media to satisfy the customers. Moreover, most of the competitors are providing information to public via social media. Therefore, organizations are under increasing pressure to adopt social media. Thus, this kind of external pressure from customers and competitors influenced the usage of social media in organizations.

In order to view the results in a broader context, based on the interview findings and literature, the quantitative survey method was used to collect data from organizations that were using social media. All the variables that were obtained from the interviews results were included for further investigations. The Partial Least Square method was used to test the hypotheses. Table 5.1 illustrates the summary of the research findings.

Based on the interview findings, the TOE framework along with the inclusion of variables from the DOI, Institutional Theory, resource-based view theory, and DeLone and McLean IS success model were used in the quantitative part of the study. The findings of the survey confirmed that interactivity, relative advantage, compatibility and institutional pressure are significantly related to social media usage. On the contrary,

cost, trust, top management support and entrepreneurial orientation were found not to be significantly related to social media usage.

The results also showed that social media usage had a positive impact on organizations in terms of cost reduction, enhancement in customer relations and informational accessibilities. Furthermore, the values of coefficients indicate that social media usage has the strongest positive influence on social media impact on organizations.

## Table 5.1: Summary of Research Findings

| Research Question | Research Objectives | Research Methods | Research Hypotheses | Research Findings | Prior Research |
|---|---|---|---|---|---|
| (1): What are the social media tools currently used by the organizations in Malaysia? | To identify the most widely used social media channels in Malaysia | Web Content Analysis | - | Facebook, Twitter, Google+, YouTube, Flickr, blog, RSS feed and other social media tools like Instagram, LinkedIn etc. are used by organizations in Malaysia and among that Facebook is the most widely used social media tool (91%). | - |
| (2): What is the level and purpose of social media usage among organizations? | To analyze the level and purpose of social media usage among organizations in Malaysia. | Web Content Analysis & Interviews | - | The average use of all the strategies showed that interactivity /involvement strategies features (58%) are widely used by organizations followed by information dissemination (54%) and only an average of 45% of the organization discloses organizational information to publics.<br><br>Purpose of social media usage (Items for social media usage construct). | - |
| (3): What are the factors that influence the usage of social media? | To investigate the factors that influences the social media usage in organizations. | Survey & Interview | H1: Relative advantage of social media positively influences social media usage | Supported | Ramdani et al. (2009); Low et al. (2011); El-Gohary (2012) |
| | | | H2: Compatibility of social media positively influences social media usage | Supported | Wang et al., (2010), El-Gohary ( 2012) |
| | | | H3: Cost effectiveness of social media positively influences social media usage. | Not Supported | Al-Quirim ( 2007); Tan et al. (2009) |
| | | | H4: Trust on social media (structural assurance) positively influences social media usage | Not Supported | Wu & Liu (2007) |
| | | | H5: Interactivity of social media positively influences social media usage in organizations | Supported | Lee & Kozar ( 2012); Pitut & Lee ( 2006) |
| | | | H6: Top mgmt. support positively influences social media usage in organizations | Not Supported | Wang et al. (2010) |
| | | | H7: Entrepreneurial orientation positively influence social media usage in organizations | Not Supported | Urban (2010); Colton et al. (2010) |
| | | | H8: Institutional pressure positively influence social media usage | Supported | Teo et al. (2003); Ke et al. (2009), Liang et al. (2007) |
| (4): How social media usage benefits the organizations? | To ascertain the impact of social media usage on organizations. | Survey & Interview | H9: Social media usage will have a positive impact on organizations | Supported | Shuai & Wu (2011); Stone et al. ( 2007); Apigian et al. (2005) |

The findings suggests that relative advantage is the one of the factors that influences organizational usage of social media (P<0.005). The finding can be interpreted that the expected benefits from social media usage will influence the organization to use social media. The result on relative advantage was consistent with the interview findings of this study and also previous studies that argued that relative advantage of the technology is an important factor in the adoption of any new technology (Ramdani et al., 2009; Low et al., 2011; El-Gohary, 2012).

Similarly, the compatibility of social media was identified as a significant factor that influenced social media usage in organizations (P<0.005). Anyone with internet connection can use social media like Facebook or Twitter. Social media is very compatible with existing infrastructure as the technology is very simple and easily adoptable by any organization. The study result on compatibility was consistent with the interview findings and previous studies which found that compatibility is a significant factor in the adoption of technology (Wang et al., 2010; El-Gohary, 2012).

The results also revealed that interactivity of social media is an important factor that determined the use of social media in organizations (P<0.001). The result could be interpreted as that the interactive nature of social media that enabled two-way communications with the public had greatly influenced the organizations to use it. Interactive innovations are the ones that offer two-way communication and speed up the adoption process because they attract the users quickly (Rogers, 1995; Lee & Cho, 2011). The result was consistent with the interview findings and also previous studies that suggested that interactivity of the technology has a strong effect on technology adoption (Lee & Kozar, 2012; Pituh & Lee, 2006).

Another important determinant of social media usage is the institutional pressure that emanated from the external environment (P<0.005). The explanation for the result could be that pressure from various external parties such as competitors and customers had a positive influence on the organizations' usage of social media. The findings were consistent with the interview results and also previous studies that argued that institutional pressure was an important determinant of technology adoption (Teo et al., 2003; Ke et al., 2009, Liang et al., 2007).

The factors such as cost effectiveness and trust were found to have insignificant relationship with social media usage. The study result on cost is consistent with previous studies (Al-Qirim, 2007; Tan et al., 2009). Even though the interview findings suggests that it is cost effective to use social media, the reason for this insignificant relationship may be that the organization must employ dedicated staffs to continuously monitor, update, and respond to customer queries. Moreover if organizations want to run a campaign on social media, it incurs cost as well. Therefore the study revealed that cost effectiveness is not a significant factor in the organizational usage of social media.

Another insignificant determinant of social media usage that had been identified in the study is trust. The result was consistent with Wu & Liu (2007) study. Also the interview findings did not identify trust as an important factor that influenced social media usage in organizations. The possible interpretation for this result would be that trust may be considered as an important factor for ecommerce adoption or technology that involves transactions. At present, social media is used mainly to interact with customers and advertise the products and services. Most of the organizations in Malaysia currently do not use social media for sales activities which involve transactions. Therefore, trust may not be a significant factor for social media adoption at this moment. Moreover the cost

associated with the adoption of social media is very little, so the organization might adopt social media without considering the trust factor. On the other hand, social media service providers like Facebook and Twitter are well known all over the world and the features of these sites are quite consistent and common to all users, so trust may not be an issue. Therefore the study result suggests that trust is not a significant factor that influenced social media usage in organizations.

The result of the study revealed that top management support is not a significant factor for social media adoption. This result contradicted with most of the previous studies' findings which stated that top management support is an important determinant of technology adoption (Chong & Chan, 2012; Ramdani et al., 2009; Low et al., 2011; Ifinedo, 2011; Scupola, 2009). The result is however consistent with Wang et al. (2010)'s study which found that top management support is not a significant factor for technology adoption.

The first explanation for the result was from the interview findings. Although, the interview results showed that top management support was an important factor for social media adoption, the participants also mentioned that it was very difficult to get initial support for social media usage from top management. This may be because top managements were concerned about the reputation issues associated with social media. There were many organizations which started to use social media but not effectively because the top managements had not segregated sufficient funds for hiring staff to monitor the social media usage. Therefore the result of the study shows that top management support is lacking for social media usage in organizations.

The last insignificant factor was the entrepreneurial orientation of the firm. The results demonstrated that entrepreneurial orientation was not a significant factor for social media usage in organization. Not many studies have investigated the direct relationship between entrepreneurial orientation and technology adoption. However, similar to the study findings, Urban (2010) in his study found that entrepreneurial orientation was not significantly associated with technology orientation of the organization. In addition, Colton et al. (2010) examined the role of entrepreneurial orientation in e-tailing context and found that entrepreneurial orientation does not have a positive impact on brand strength in e-tailing.

The explanation for the insignificant result would be that social media is not a big investment which involves great risk. So the risk taking propensity might not be an important factor in the adoption of social media. Moreover the organizations need not have to be very innovative to use social media; even a sole proprietor whom has a small business and sells basic goods may use social media to advertise their products and services. Therefore, entrepreneurial orientation of the firm does not play an important role in social media adoption. By identifying the influential factors for social media usage in organizations, the study has answered the third research question. The next section elaborates the impact of social media usage in organizations.

### 5.3.5 Impact of Social Media Usage on Organizations

The important findings of the study are the identification of impact factors derived from social media usage. The qualitative results showed that social media had helped to improve the performance of the organizations in various areas. Social media usage has helped organizations to enhance the customer relations and customer service, reduced

the cost of marketing and customer service. It has also enabled organizations to have easier access to information about customers and competitors.

As mentioned earlier, the results revealed that social media usage in organizations have a positive impact in terms of cost reduction for marketing and customer service activities. In today's era the digital advertisements especially in social media websites such as Facebook and Twitter had reduced the cost of advertising to a great extent. Similarly, social media usage has a greater impact in the enhancement of customer relations. Customer relations are improved by allowing customers direct access to information for which they would previously have had to telephone, or e-mail. This eliminated frustration caused by delays (Brown & Duguid, 2000; Cairncross, 2001; Zyl, 2009). The interactive nature of social media had created a two-way communication between organizations and the public which has helped them to improve their relationships.

Moreover, social media usage has also improved information accessibility; organizations can get the information about their potential customers, their tastes, their wants easily from the conversations in the Facebook pages. By becoming a fan of other organizations' Facebook pages, they can also get information about their competitors, their activities, their tactics, and their brand sentiments. It is also possible for organizations to get general information about the market, new trends, and industrial information directly and easily from social media. Moreover, organizations can easily deliver the organizational information to the public in a timely manner.

Results of the study also revealed that some organizations have generated revenue via social media usage, whereas others have not actually gone to that stage. In Malaysia,

organizational usage of social media is still at a growing stage; therefore the direct impact of social media on revenue generation is minimal at this stage. Furthermore, some organizations have also stated that the use of social media in their organizations have given them competitive advantage. When organizations use social media in an effective and innovative manner, they actually realize the competitive advantage. Therefore the findings highlight that social media could provide greater value when it is used effectively and innovatively.

Subsequently the result of the quantitative part of the study stated that social media usage has a very strong positive impact on organizations' performance ($P<0.001$), in terms of cost reduction, enhanced customer relations, and improved information accessibility. The result is consistent with previous findings that found positive relationships between technology usage and firm performance (Shuai & Wu, 2011; Stone et al., 2007; Apigian et al., 2005). The result is also consistent with the interview findings which stated that social media usage positively benefited the organizations in various areas as mentioned above.

Based on the web content analysis, it was found that organizations in Malaysia use social media for more interactive purposes to communicate with customers. Therefore social media usage for having interactive communication with its current and potential future customers would benefits the organizations in terms of enhancement in customer relations. Furthermore, many organizations have started to advertise their products and services on their corporate social media pages. The reason is that social media has the capacity to reach larger audiences at minimal cost and time. Therefore organizations can see immediate reach and cost reduction in terms of marketing and customer service activities.

Organizations are also able to access a lot of information about customers via social media; it is possible to understand customer choices, needs, demands, and also frustrations. Interview results of the study found similar findings which suggested that through social media, organizations get easy access not only to customer information but also to competitor information. This showed that social media usage had improved the information accessibility of the firm. In the next section, the contribution of the study is discussed.

## 5.4 Contribution of the Study

This study resulted in several important contributions which are presented in the following paragraphs:

### 5.4.1 Theoretical Contribution

Social media is considered as a hot topic among researchers. Due to its importance, uniqueness, and rapid growth, marketers and researchers should pay special attention to this phenomenon and examine well the established notions and theories in social media contexts (Laroche et al., 2012). Many researchers have investigated social media from individual perspective but organizational-level research on social media has not grown as rapidly (Lovejoy & Saxton, 2012). Further, there has not been much research on IS that employed mixed method approach (Venkatesh et al., 2013). Therefore this study contributed to the academic field of IS by investigating the organizational usage of social media using mixed methods such as web content analysis, interviews, and surveys. Since this study used various methods, it provided a more in-depth understanding of social media usage in the organization context.

Next, this study used the TOE framework as the base, and combined various theories such as the diffusion of innovation theory, institutional theory, resource-based view theory, and the DeLone and McLean IS success model. By integrating the various theories, this research developed a model that contributed to the scholarly research and literature in the field of Information Systems and Strategic Management.

Furthermore, literature on Information Technology also stated that studies examining the determinants of IT use, the extent of IT use and firm performance in an integrative model was sparse (Devaraj & Kohli, 2003). However, during the past few years, studies have been conducted to investigate the antecedents and consequences of various IT systems (Lee et al., 2010; Salwani et al., 2009; Stone et al., 2007; Zhu & Kraemar, 2005). But in the context of social media, there is a lack of studies that investigated the organizational usage of social media in an integrated model (Akar & Topcu, 2011; Lovejoy & Saxton, 2012). Therefore the current study using an integrative model examined the determinants of social media use, the extent of social media use, and its impact on organizational performances.

This study investigated various factors to study its influence on social media usage. Previous studies that used TOE framework have mostly used general technological factors to study the adoption of the technology. Based on the interview findings, this study used social media specific variables such as social media interactivity and cost effectiveness to study its influence on social media usage.

Similarly for organizational context, previous studies used descriptive measures such as the firm's size and scope, centralization, formalization, and complexity of managerial structure, the quality of human resource, and the amount of internal slack resources. But

in this study, the entrepreneurial orientation of the firm and its impact on social media usage was investigated. Based on the RBV theory, strategic orientation such as market orientation, learning orientation and entrepreneurial orientation were considered as intangible assets of an organization (Ruokonen & Saarenketo, 2009). This study rather than considering the descriptive measures, investigated the influence of entrepreneurial orientations of the firm on technology usage. Therefore this study validates and provides more support to the TOE framework. Apart from the commonly used constructs, constructs such as interactivity and entrepreneurial orientation were added to the framework to enhance it and make it more appropriate to study the web 2.0 technologies and upcoming new technologies that are highly collaborative and interactive.

Most of the previous research typically conceptualized IS usage as an amount, and operationalized it as frequency of use and duration of use (Min & Fei, 2008). Simply measuring the amount of time a system is used does not capture the relationship between usage and the realization of expected results completely (DeLone & McLean, 2003). For example, authors have suggested that full functional use of an e-commerce system should include informational use, transactional use, and customer service use (Young & Benamati, 2000). Therefore, this study developed the measures for social media usage construct based on various purposes for which it can be used. It categorized the usage construct into three sub constructs and measured various purposes of usage, such as social media use for information search, social media use for marketing, and social media use for customer service. Thus, this study contributed to the enhancement of the measurement of usage construct especially in social media context. Furthermore the study also clearly identifies and categorizes the impact of social media usage on organizations in terms of various sub-constructs such as cost reduction in

marketing and customer service, enhanced customer relations, and improved information accessibility. Therefore, future researchers can investigate the impact of social media usage based on the categorization of the impact factors identified in this study and prove the results in different contexts.

### 5.4.2 Practical Contributions

Due to the existing debate on the positives and negatives of social media, most of the organizations are in a confused state regarding the adoption of social media. Therefore this study will provide a clearer idea on the real importance of social media and its benefits. Organizations which had not adopted the technology can plan for their successful adoption. Lessons learned from others' experiences can provide valuable insights for entrants planning future deployments for their organizations.

The identified influential factors for social media usage provides a clearer understanding for the decision makers to concentrate on the important factors that influence the social media usage in organization. Moreover, this study reported the various purposes for which the social media can be successfully used. Organizations can understand the various usages of social media that improves the performance of the organization, and if it is suitable for their business then they could use it in the same way to realize the complete benefits associated with the usage.

Further, the results of the web content analysis showed the various features of social media sites that were successfully used by Malaysian organizations. Therefore the organizations that are planning to adopt social media, or those currently using social media can try to use all those features to ensure effective usage.

Another important contribution of the study is the identification of organizational impact factors. This study demonstrated the various areas of organizational performance that can be improved through social media usage. For instance, the study findings showed that social media has a positive impact on organizations in terms of cost reduction in marketing and customer service activities. Similarly, effective use of social media also improves the relationships with customers and makes them loyal customers. Finally social media has enhanced the information accessibility about customers and competitors. The detailed sketch on the impact factors enable managers and decision makers to understand the real importance of social media. It also makes them to understand that proper and effective use of social media will improve the performance of the organization in various areas as suggested by the study. The proof provided by the study on the benefits from the use of social media motivates top management to provide initial and continuous support for the use of social media in organizations.

## 5.5 Limitations of the Study

This study is limited in the selection of sample. During the web content analysis stage, only 7910 organizations' website were browsed and it was found that only 664 organizations were using social media. Other organizations that were using social media were not included in the study due to time constraints. Secondly, in order to investigate social media usage, only certain factors that were derived from the interview findings were included in the study. In a broader context, there may be other factors that influence social media usage in organizations. Therefore, the inclusion of only certain variables in the study may be thought of as a limitation. Nonetheless, the EFA results indicated that the constructs included in the study explains 74% of the variance.

Based on the interview results, social media usage was categorized into three sub-constructs such as social media usage for marketing, social media usage for building customer relations, and social media usage for information search. However, it is possible to state that social media can be used for other purposes as well, which was not specified in this research. Similarly, social media impact was investigated on three aspects such as cost reduction, enhanced customer relations, and improved information accessibility. There may be other benefits associated with the use of social media in the organizational context which was not specified in this study. Furthermore the concentration on only few social media tools can be considered as a limitation but however the results of the Phase I of the study showed that only tools such as Facebook, and Twitter were mostly used by Malaysian organizations.

## 5.6 Future research

Since not many empirical studies have examined the impact of social media usage on organizational performance, there are many paths for the expansion of this research and more directions for future research to be considered. This study used an integrated model to study the social media usage among organizations in Malaysia; this model can be used and validated in other regions and in other contexts. The results of this research can be generalized by replicating it in other countries, more suitably the study can be replicated in other developing countries. Apart from that, the difference in culture, economic positions, and other differences invite comparative studies between developed and developing countries to show divergent results. Similarly, the differences on the results of social media's impact on organizational performance among different countries can be compared.

This study investigated the usage of social media considering social media tools in general. Since each social media tool has unique features and provides different benefits; future studies can concentrate on one social media tool in particular and investigate it in detail, which might provide a more complete understanding of the impact of the particular tool on organizations.

Finally, this study used a cross-sectional sample to collect data. Future researchers can conduct a longitudinal study to investigate the relationship between the various adoption factors and usage. Similarly, the relationship between social media usage and impact on performance in different times can be investigated to examine whether there are any changes in results between time periods.

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1. Parveen, F. (2012). Impact of Social Media Usage on Organizations. *PACIS 2012 Proceedings.* Paper 192. http://aisel.aisnet.org/pacis2012/192

2. Parveen, F., Ainin, S., & Jaafar, N. I. (2013). An Analysis of the Usage of Social Media in Malaysian Public Listed Organizations. *Global Information Technology Management Association (GITMA) World Conference*, Kuala Lumpur, Malaysia, June 16-18.

3. Parveen, F., Ainin, S., & Jaafar, N. I. (2013). An Analysis of the Usage of Social Media in Malaysian Public Listed Organizations. *Communications of Global Information Technology (COGIT)* (Accepted for Publication)

4. Parveen, F., Jaafar, N. I., & Ainin, S. (2013). Social Media Usage among Businesses: A Website Content Analysis. *Asian Journal of Information Technology*. (SCOPUS- Indexed Journal) (Accepted for Publication)

5. Farzana Parveen, Noor Ismawati Jaafar and Sulaiman Ainin (2014). Social Media Usage and Organizational Performance: Reflections of Malaysian Social Media Managers. Telematics and Informatics (forthcoming) (ISI- Cited Publication) (*ISI-Cited Publication*)

# APPENDIX

## Appendix 1 - Interview Protocol

**Topic:** Social Media Usage and its Impact on Malaysian Organizations

**Interviewee:** Company XX

Interviewer: Farzana Parveen Tajudeen

PHD Candidate

Faculty of Business & Accountancy

University Malaya

**Date:** XXX

**Time:** XXX

**Introduction**

The study investigates the usage of social media such as Facebook, Twitter etc., among organizations in Malaysia. The research aims to identify the various purposes of social media usage in organizations, factors that influence the usage and how it impacts the performance of the organization. Therefore the purpose of this interview session is to get some valuable information on organizational usage of social media. All the information discussed in the interview session will be kept highly confidential, and will be used only for educational purposes.

For the interview, the questions are placed under five sections:

Section 1: Social media usage

Section 2: Factors influencing social media usage in Malaysian organization

Section 3: Social media usage and organizational Performance

Section 4: Social media Management

Section 5: Future of Social media

## Interview Questions

### Section 1: Social media usage

1. What social media tools are currently used by your organization?
2. When did your organization decided to embark on the social media strategy? And why?
3. Currently for what purpose does your organization use social media?

### Section 2: Factors influencing social media usage in Malaysian Organizations

4. In your opinion what are the various factors that influence or motivates the organizational usage of social media?
5. Explain in detail, how the above mentioned factors influence the implementation and continuous usage of social media?

### Section 3: Social media usage and Organizational Performance

6. What are the various areas of the organizational performance that can be improved by social media usage?
7. In particular, have your organization seen any direct impact of social media usage on your organizational performance?
8. Based on what criteria does your organization measure the social media impact on performance?

### Section 4: Social media Management

9. Social media is like a double edged sword, it can create great benefit at the same time can waste people time, so how does your organization ensure that social media is only used for business purposes?
10. Reputation management is an important issue when using social media. How does your organization monitors and manage the usage of social media?

### Section 5: Future of Social media

11. In the future what do you expect from the usage of social media?
12. Do you think all Malaysian organizations should start using social media for their business development?

**Thank you**

## Appendix 2 – Survey Questionnaire

# UNIVERSITY OF MALAYA

## Faculty of Business & Accountancy

## Doctor of Philosophy

## Survey on "Social Media Usage and its Impact on Malaysian Organizations"

Dear Respondent,

This survey is conducted as part of my PhD research project. The study aims to investigate the usage of social media in organizations. This questionnaire comprises of 2 sections. The average time to complete the survey is about 15 minutes. Please note that all the information provided by you will be kept strictly confidential and will be used for academic purposes only. Your participation and feedback are extremely important for the research and is greatly appreciated

Thank you for your cooperation.

Farzana Parveen

PhD candidate, Faculty of Business & Accountancy, University of Malaya

farzana@siswa.um.edu.my

This research is done under the expert guidance of

Prof. Dr. Ainin sulaiman & Dr. Noor Ismawati Jaafar

Faculty of Business & Accountancy, University of Malaya

## Section A

**Instructions: Use the scale below to mark your responses. Please circle in the scale that best describe the following**

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

**1. My Organization use social media such as Facebook/Twitter etc.,**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| 1 | For advertising and promoting company's product and services | 1 | 2 | 3 | 4 | 5 |
| 2 | For branding | 1 | 2 | 3 | 4 | 5 |
| 3 | For conducting marketing research | 1 | 2 | 3 | 4 | 5 |
| 4 | For getting referrals (word of mouth via likes, shares and followers in Facebook, Twitter etc.,) | 1 | 2 | 3 | 4 | 5 |
| 5 | To develop customer relations | 1 | 2 | 3 | 4 | 5 |
| 6 | To communicate with customers | 1 | 2 | 3 | 4 | 5 |
| 7 | For customer service activities | 1 | 2 | 3 | 4 | 5 |
| 8 | To receive customer feedback on firms existing products and services | 1 | 2 | 3 | 4 | 5 |
| 9 | To receive customer feedback on new or future product or services | 1 | 2 | 3 | 4 | 5 |
| 10 | To reach new customers | 1 | 2 | 3 | 4 | 5 |
| 11 | To search for general information | 1 | 2 | 3 | 4 | 5 |
| 12 | To search for competitor information | 1 | 2 | 3 | 4 | 5 |
| 13 | To search for customer information | 1 | 2 | 3 | 4 | 5 |

**2. The social media site (Facebook/Twitter etc.,) that my organization uses….**

| No. | Statements | | | | | |
|---|---|---|---|---|---|---|
| 1 | are vivid and evoke responses. | 1 | 2 | 3 | 4 | 5 |
| 2 | provide features for interactive communication with our customers. | 1 | 2 | 3 | 4 | 5 |
| 3 | provide an appropriate amount of interactive features (e.g., graphics, pop-up windows, animation, music, voices). | 1 | 2 | 3 | 4 | 5 |
| 4 | contain components to help the interaction between it and consumers. | 1 | 2 | 3 | 4 | 5 |

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

**3. Indicate the degree to which social media adoption is compatible with your organization**

**Social media adoption…**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| 1 | is compatible with our information technology infrastructure. | 1 | 2 | 3 | 4 | 5 |
| 2 | is consistent with our organisational beliefs and values. | 1 | 2 | 3 | 4 | 5 |
| 3 | Social media adoption is consistent with our business strategy | 1 | 2 | 3 | 4 | 5 |

**4. Indicate your level of agreement on the statements regarding the cost effectiveness of social media**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| 1 | Social media is more cost effective than other types of marketing or customer service technologies. | 1 | 2 | 3 | 4 | 5 |
| 2 | Organization can avoid unnecessary cost and time by using Social media. | 1 | 2 | 3 | 4 | 5 |
| 3 | Social media saves costs related to time and effort in marketing, branding and customer service | 1 | 2 | 3 | 4 | 5 |

**5. Indicate your level of agreement on your initial perception that using social media will provide various benefits to your organization such as:**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| **1** | Increase in business opportunities | 1 | 2 | 3 | 4 | 5 |
| **2** | Improvement in customer services | 1 | 2 | 3 | 4 | 5 |
| **3** | Improvement in customer relations | 1 | 2 | 3 | 4 | 5 |
| **4** | Enhancement in competitiveness | 1 | 2 | 3 | 4 | 5 |
| **5** | Analyse customer requirements more efficiently | 1 | 2 | 3 | 4 | 5 |
| **6** | Allows for better advertising and marketing | 1 | 2 | 3 | 4 | 5 |
| **7** | Enhances the company's image | 1 | 2 | 3 | 4 | 5 |

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

**6. How much does your organization trust social media?**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| 1 | The Social media sites (e.g., facebook, twitter) that my organization uses provide enough safeguards to make us feel comfortable using it to post our organization's information. | 1 | 2 | 3 | 4 | 5 |
| 2 | The Social media sites (e.g., facebook, twitter) that my organization uses provide a robust and safe environment in which to transact our information. | 1 | 2 | 3 | 4 | 5 |
| 3 | My organization feel assured that legal and technological structures adequately protect us from problems on the social media. | 1 | 2 | 3 | 4 | 5 |

**7. Indicate the degree to which top management support is available for Social media adoption in your organization**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| 1 | Top management considers Social media adoption as important to the organisation. | 1 | 2 | 3 | 4 | 5 |
| 2 | Top management effectively communicates its support for the use of Social media | 1 | 2 | 3 | 4 | 5 |
| 3 | Top management is likely to invest funds in social media technology | 1 | 2 | 3 | 4 | 5 |
| 4 | Top management had established goals and standards to monitor the social media usage in organization. | 1 | 2 | 3 | 4 | 5 |

**8. Indicate the degree of pressure experienced by an organization for Social media usage**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| 1 | Our main customers that matter to us believe that we should use Social media | 1 | 2 | 3 | 4 | 5 |
| 2 | Our main suppliers that matter to us believe that we should use social media | 1 | 2 | 3 | 4 | 5 |
| 3 | Our suppliers that are crucial to us wish us to use Social media. | 1 | 2 | 3 | 4 | 5 |
| 4 | Our main competitors that have adopted Social media benefited greatly. | 1 | 2 | 3 | 4 | 5 |
| 5 | Our main competitors that have adopted Social media are perceived favourably by customers. | 1 | 2 | 3 | 4 | 5 |
| 6 | Our main competitors that have adopted Social media are more competitive. | 1 | 2 | 3 | 4 | 5 |

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

**9. Indicate the degree to which the social media usage had benefited the organization**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| **1** | Reduced the cost to communicate with customers | 1 | 2 | 3 | 4 | 5 |
| **2** | Reduced the cost of advertising and promotion | 1 | 2 | 3 | 4 | 5 |
| **3** | Reduced the cost of customer service and support | 1 | 2 | 3 | 4 | 5 |
| **4** | Enhanced customer service | 1 | 2 | 3 | 4 | 5 |
| **5** | Increased customer loyalty and retention | 1 | 2 | 3 | 4 | 5 |
| **6** | Improved customer relationship | 1 | 2 | 3 | 4 | 5 |
| **7** | Enabled easier access to customer information | 1 | 2 | 3 | 4 | 5 |
| **8** | Enabled easier access to competitor information | 1 | 2 | 3 | 4 | 5 |
| **9** | Enabled easier access to market information | 1 | 2 | 3 | 4 | 5 |
| **10** | Enabled faster delivery of business information to customers | 1 | 2 | 3 | 4 | 5 |

**10. Indicate your level of agreement on the entrepreneurial orientation of your firm**

| No | Statements | | | | | |
|---|---|---|---|---|---|---|
| **1** | To seek the sales growth, our company is willing to execute some risky projects | 1 | 2 | 3 | 4 | 5 |
| **2** | Even though the costs for some projects are high, under some conditions, our company will still launch those projects | 1 | 2 | 3 | 4 | 5 |
| **3** | Our company can accept the uncertainties existing in the projects | 1 | 2 | 3 | 4 | 5 |
| **4** | Our company frequently tries out new ideas | 1 | 2 | 3 | 4 | 5 |
| **5** | Our company seeks out new ways to do things | 1 | 2 | 3 | 4 | 5 |
| **6** | Our company is creative in its methods of operation | 1 | 2 | 3 | 4 | 5 |
| **7** | Our company is often the first to do marketing for new products and services | 1 | 2 | 3 | 4 | 5 |
| **8** | Innovation in our company is perceived as too risky and is resisted. | 1 | 2 | 3 | 4 | 5 |

## Section B

## Organization Background and Respondent Background

Instruction: tick (√) in the place that best describe the followings.

1. Your level in the organization hierarchy:

   ☐Senior management ☐ Middle management ☐ Executive

2. Do you play an integral role in the company decision making process in the usage of social media

   ☐ yes ☐ no

3. Years of experience

   ☐ less than 1 year ☐ 1 to 5 years ☐ 5 to 10 years ☐ 10 to 15 years ☐More than 15 years

4. Years working with the company

☐ Less than 1 year ☐ 1 to 5 year's ☐ 5 to 10 years ☐ 10 to 15 years ☐More than 15 years

5. Nature of business of your organisation:

☐ Manufacturing ☐ Services

6. Industry that your organisation operates in:

| | | |
|---|---|---|
| ☐ Accounting | ☐ Government | ☐ Real Estate |
| ☐ Advertising/public Relations/Marketing | ☐ financial services | ☐ Retail |
| ☐ Architecture | ☐ Food and Beverages | ☐ Staffing |
| ☐ Banking | ☐ Health care | ☐ Technology |
| ☐ Construction | ☐ Insurance | ☐ Telecommunication |
| ☐ Consulting | ☐ Legal | ☐ Transportation |
| ☐ Distribution | ☐ Manufacturing | ☐ Others |
| ☐ Education | ☐ Non-profit organization | |
| ☐ Engineering | ☐ Publishing/Printing | |

7. Age of your organisation:

☐ Less than 5 years ☐ 5 to 10 years ☐ 10 to 15 years ☐ 15 to 20 years ☐ More than 20 years

8. Number of employees in your organisation:

☐ Less than 100 employees ☐ 100 to 200 employees ☐ 200 to 300 employees

☐ 300 to 400 employees ☐400 to 500 employees ☐ More than 500 employees

9. Market share:

☐ above 75% market share ☐ 50% to 75% market share ☐ 25% to 50% market share

☐ below 25% market share

10. How long is your company using social media?

☐ Less than 6 months ☐ 1 Year to 2 Years ☐ 2 Years to 3 Years ☐ More than 3 Years

11. How fast/often does your organization post information/respond to customer queries on social media?

☐ within an hour ☐ within a day ☐ within a week ☐ within a month ☐ more than a month

**********_Thank you_**********

# Appendix 3 – Coding for Demographic Questions

| No | Questions | Options | Codes |
|---|---|---|---|
| 1. | Nature of business of your organization | Manufacturing | 1 |
| | | Services | 2 |
| 2. | Industry that your organization operates | Various industries | 1-24 |
| | | Others | 25 |
| 3. | Number of employees in your organization: | Less than 50 employees | 1 |
| | | 50 to 100 employees | 2 |
| | | 100 to 200 employees | 3 |
| | | 200 to 300 employees | 4 |
| | | 300 to 400 employees | 5 |
| | | 400 to 500 employees | 6 |
| | | More than 500 employees | 7 |
| 4. | Age of your organization | Less than 5 years | 1 |
| | | 5 to 10 years | 2 |
| | | 10 to 15 years | 3 |
| | | 15 to 20 years | 4 |
| | | More than 20 years | 5 |
| 5. | How long has your organization been using social media? | Less than 6 months | 1 |
| | | 6 months to 1 year | 2 |
| | | 1 year to 2 years | 3 |
| | | More than 2 years | 4 |
| 6. | How fast/ often does your organization post information/respond to customer queries on social media? | Within an hour | 1 |
| | | Within a day | 2 |
| | | Within a week | 3 |
| | | Within a month | 4 |
| | | More than a month | 5 |
| 7. | Your level in organization hierarchy | Senior management | 1 |
| | | Middle management | 2 |
| | | Executive | 3 |
| 8. | Do you play an integral role in your organizations' decision making process in the usage of social media? | Yes | 1 |
| | | No | 2 |
| 9. | Years of working experience | Less than 1 year | 1 |
| | | 1 to 5 years | 2 |
| | | 5 to 10 years | 3 |
| | | 10 to 15 years | 4 |
| | | More than 15 years | 5 |
| 10. | Years working with the current organization | Less than 1 year | 1 |
| | | 1 to 5 years | 2 |
| | | 5 to 10 years | 3 |
| | | 10 to 15 years | 4 |
| | | More than 15 years | 5 |

# Appendix 4 – Mean and Standard Deviation of the Items

| Items from Questionnaire | Mean | SD |
|---|---|---|
| **Relative Advantage** | | |
| Increase in business opportunities | 3.99 | .724 |
| Improvement in customer service | 3.94 | .725 |
| Improvement in customer relations | 4.03 | .672 |
| Enhancement in competitiveness | 3.91 | .726 |
| Analyze customer requirements more efficiently | 3.77 | .841 |
| Allows for better advertising and marketing | 4.12 | .679 |
| Enhances the company's image | 4.11 | .686 |
| **Compatibility** | | |
| Social media adoption is compatible with our information technology infrastructure | 3.74 | .846 |
| Social media adoption is consistent with our organizational beliefs and values. | 3.90 | .804 |
| Social media adoption is consistent with our business strategy. | 3.98 | .734 |
| **Cost effectiveness** | | |
| Social media is more cost effective than other types of marketing or customer service technologies. | 4.09 | .660 |
| Organization can avoid unnecessary cost and time by using Social media. | 4.06 | .703 |
| Social media saves costs related to time and effort in marketing, branding and customer service. | 4.13 | .693 |
| **Trust** | | |
| The Social media sites (e.g., Facebook, twitter) that my organization uses provide enough safeguards to make us feel comfortable using it to post our organization's information. | 3.61 | .778 |
| The Social media sites (e.g., Facebook, twitter) that my organization uses provide a robust and safe environment in which to transact our information. | 3.44 | .828 |
| Our organization feel assured that legal and technological structures adequately protect us from problems on the social media. | 3.38 | .794 |

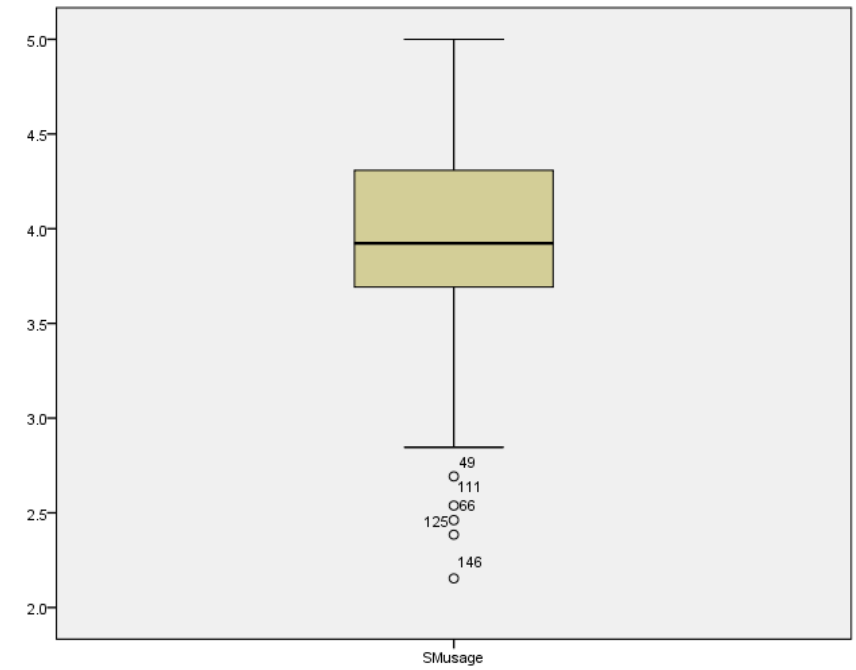
| Items from Questionnaire | Mean | SD |
|---|---|---|
| **Interactivity** | | |
| Interactive features of the social media sites that my organization use (e.g., Facebook and twitter) are vivid and evoke responses. | 4.08 | .655 |
| The social media sites provide features for interactive communication with our customers. | 4.20 | .538 |
| The social media sites provide an appropriate amount of interactive features (e.g., graphics, pop-up windows, animation, music, voices). | 3.89 | .751 |
| The social media sites contain components to help the interaction between it and consumers. | 4.04 | .641 |
| **Top Management Support** | | |
| Top management considers Social media adoption as important to the organization. | 4.01 | .750 |
| Top management effectively communicates its support for the use of Social media | 3.88 | .760 |
| Top management is likely to invest funds in social media technology | 3.59 | .766 |
| Top management had established goals and standards to monitor the social media usage in organization. | 3.59 | .810 |
| **Social Media Usage** | | |
| For advertising and promoting company's product and services | 4.31 | .705 |
| For branding | 4.21 | .753 |
| For conducting marketing research | 3.73 | .853 |
| For getting referrals (word of mouth via likes, shares and followers in Facebook, Twitter etc.,) | 4.31 | .705 |
| To develop customer relations | 4.22 | .707 |
| To communicate with customers | 4.12 | .750 |
| For customer service activities | 3.84 | .903 |
| To receive customer feedback on firms existing products and services | 3.94 | .879 |
| To receive customer feedback on new or future product or services | 3.87 | .945 |
| To reach new customers | 4.25 | .775 |
| To search for general information | 3.68 | .874 |
| To search for competitor information | 3.40 | 1.003 |
| To search for customer information | 3.54 | .978 |

| Items from Questionnaire | Mean | SD |
|---|---|---|
| **Organization Impact** | | |
| Reduced the cost to communicate with customers | 3.67 | .941 |
| Reduced the cost of advertising and promotion | 3.72 | .972 |
| Reduced the cost of customer service and support | 3.96 | .743 |
| Enhanced customer service | 4.08 | .578 |
| Increased customer loyalty and retention | 3.92 | .642 |
| Improved customer relationship | 4.08 | .594 |
| Enabled easier access to customer information | 3.78 | .860 |
| Enabled easier access to competitor information | 3.70 | .789 |
| Enabled easier access to market information | 3.83 | .760 |
| Enabled faster delivery of business information to customers | 4.02 | .731 |
| **Entrepreneurial Orientation** | | |
| To seek the sales growth, our organization is willing to execute some risky projects | 3.46 | .829 |
| Even though the costs for some projects are high, under some conditions, our organization will still launch those projects | 3.50 | .835 |
| Our organization can accept the uncertainties existing in the projects | 3.44 | .815 |
| Our organization frequently tries out new ideas | 3.88 | .707 |
| Our organization seeks out new ways to do things | 3.98 | .670 |
| Our organization is creative in its methods of operation | 3.84 | .751 |
| Our organization is often the first to do marketing for new products and services | 3.59 | .796 |

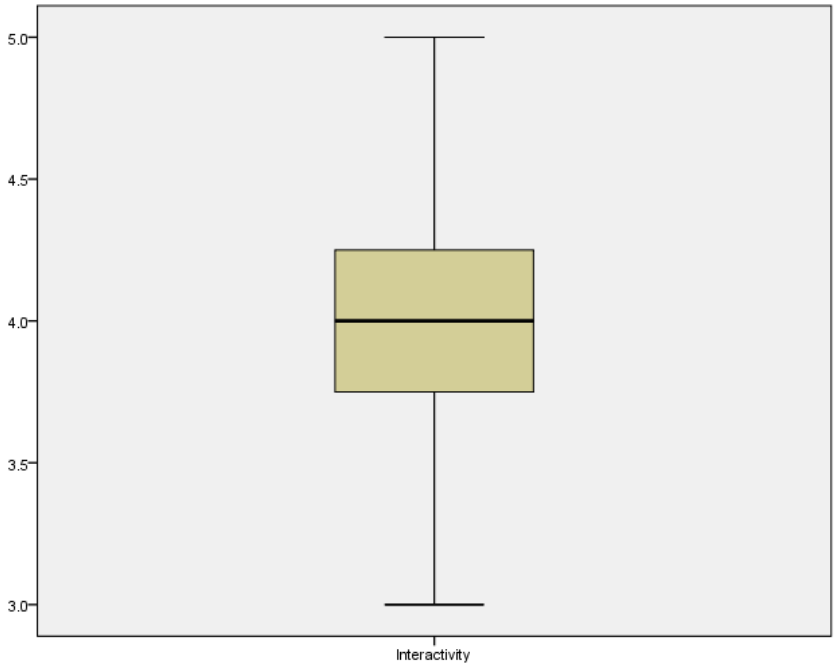
| Institutional Pressure | | |
|---|---|---|
| **Items from Questionnaire** | **Mean** | **SD** |
| Our main customers that matter to us believe that we should use Social media. | 3.20 | .931 |
| Our main suppliers that matter to us believe that we should use social media | 3.20 | .931 |
| Our suppliers that are crucial to us wish us to use Social media. | 3.09 | .906 |
| Our main competitors that have adopted Social media benefited greatly. | 3.47 | .835 |
| Our main competitors that have adopted Social media are perceived favorably by customers. | 3.46 | .835 |
| Our main competitors that have adopted Social media are more competitive | 3.40 | .851 |

# Appendix 5 – Investigation of Box Plots

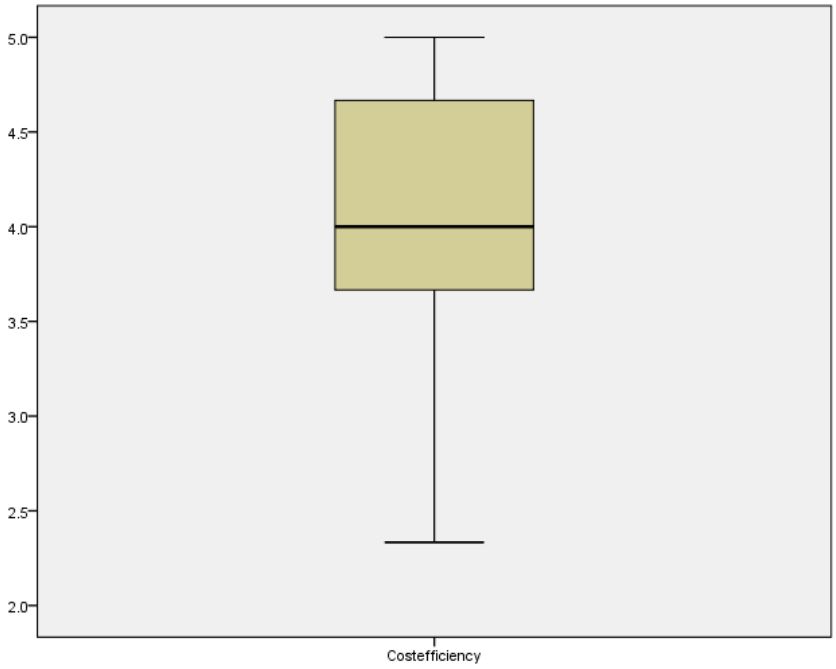
## Social Media Usage



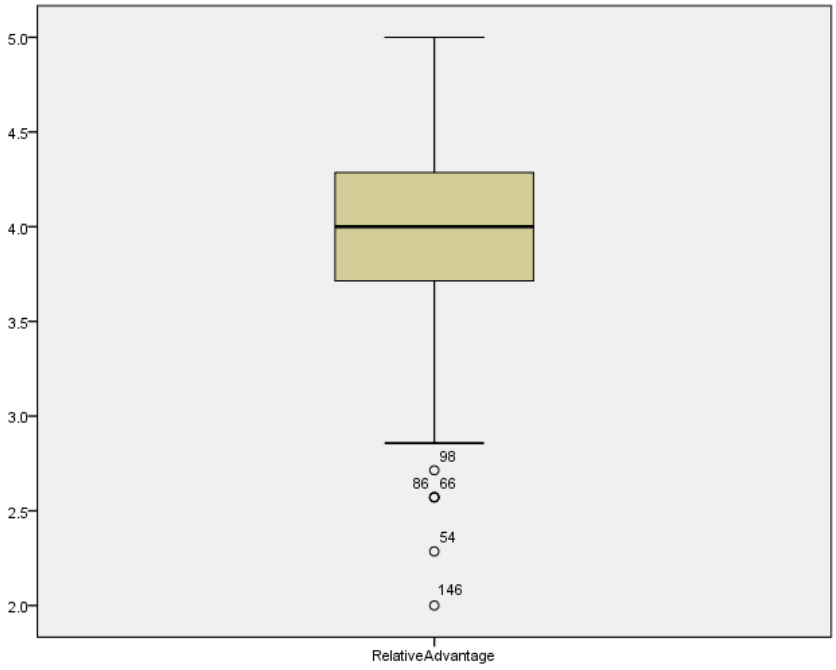

## Interactivity



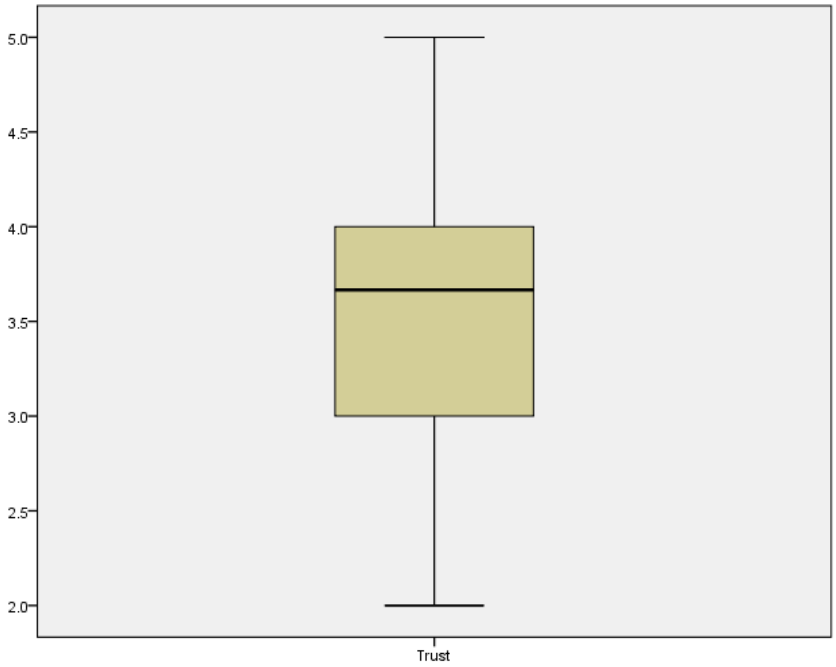
## Cost Effectiveness



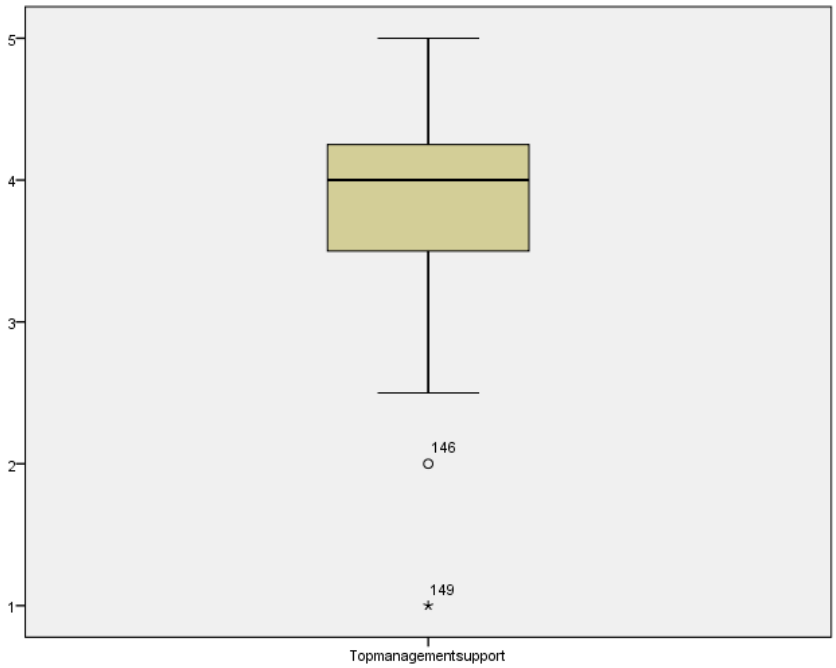

## Relative Advantage



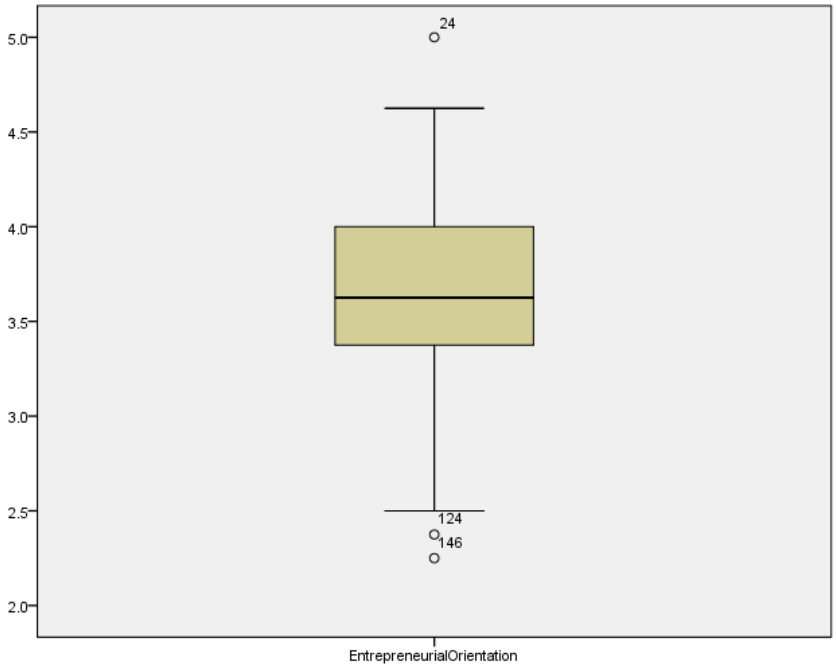
## Trust



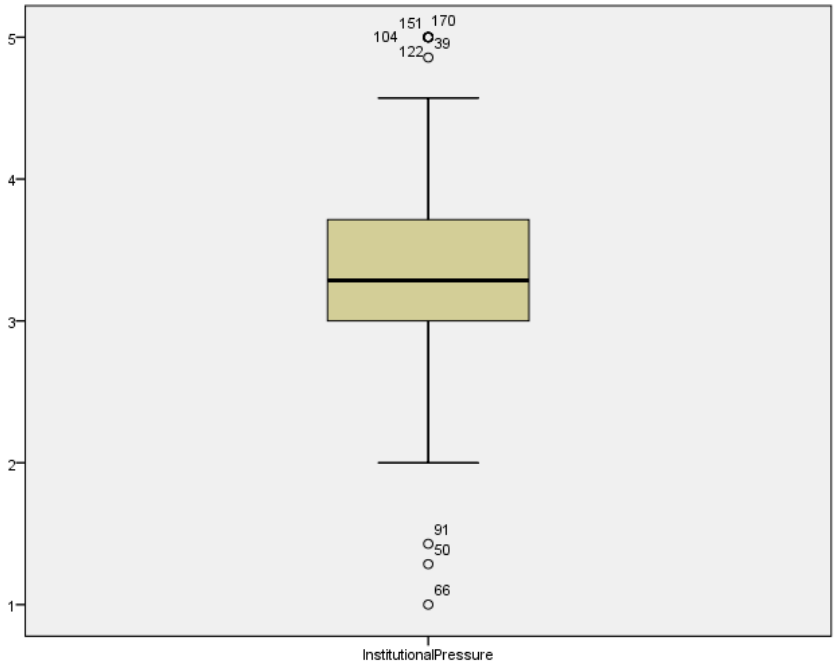

## Top Management Support



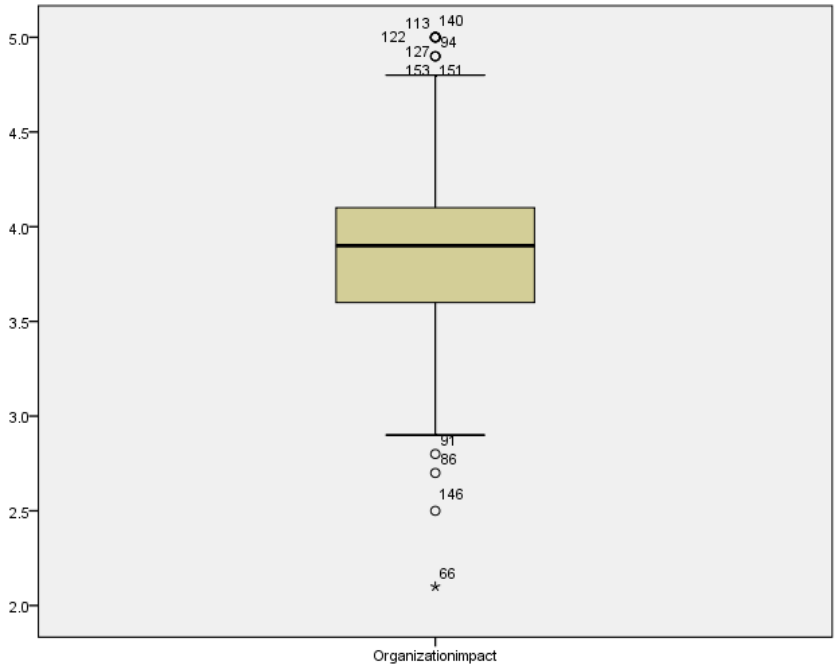
## Entrepreneurial Orientation



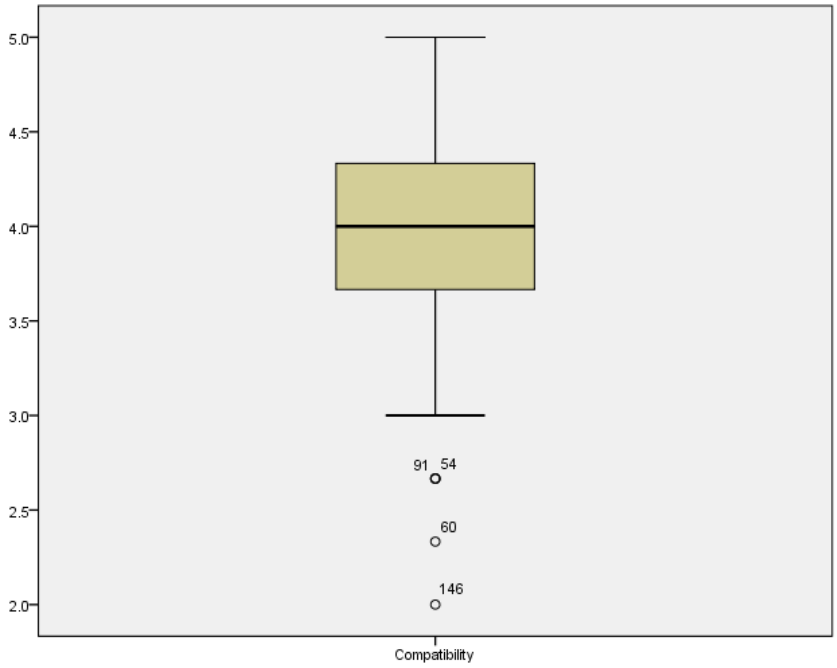

## Institutional Pressure



## Organization Impact

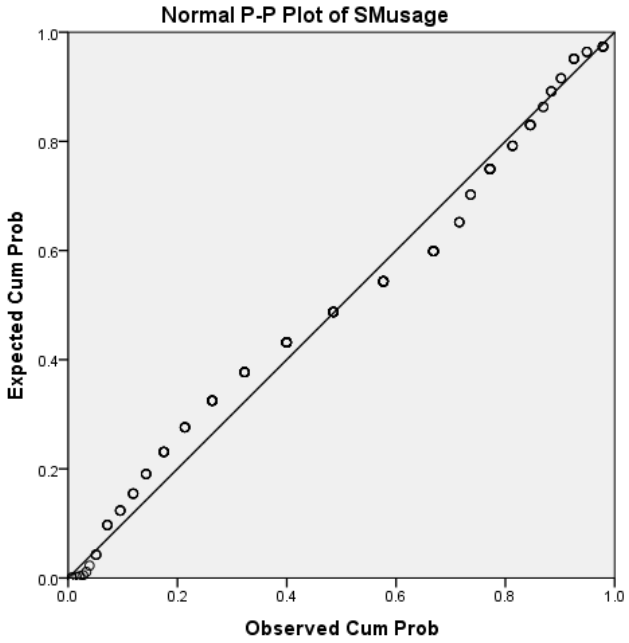



## Compatibility

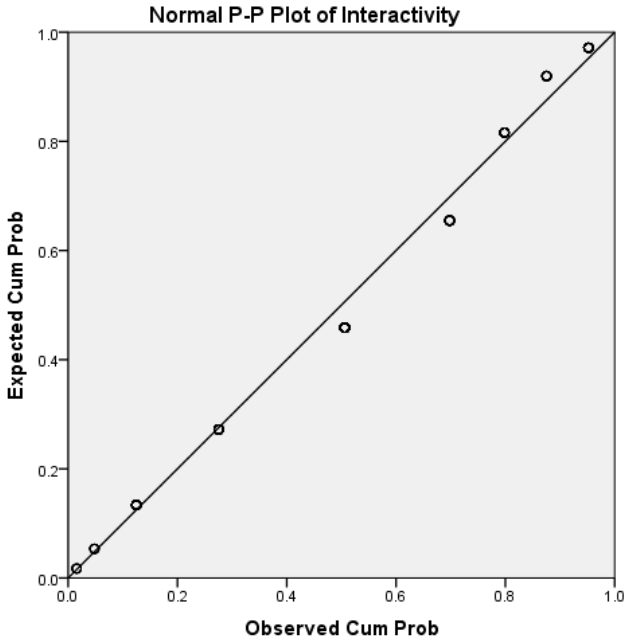


# Appendix 6 - P-P Plots

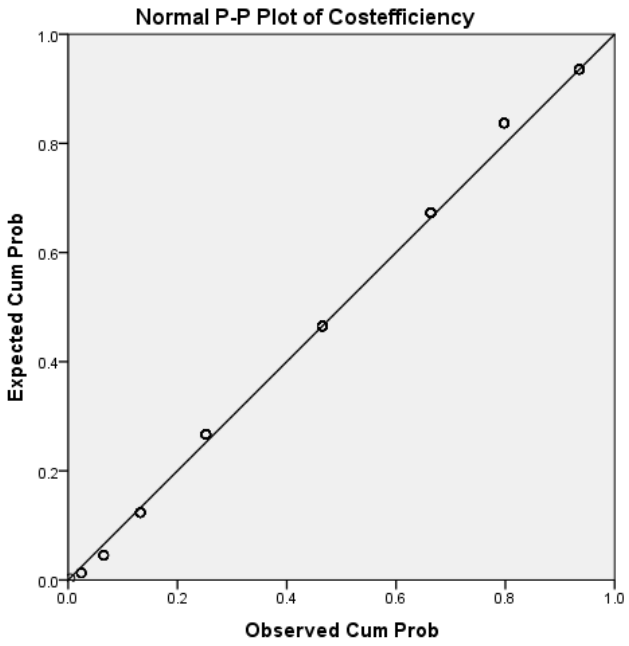
## Social Media Usage



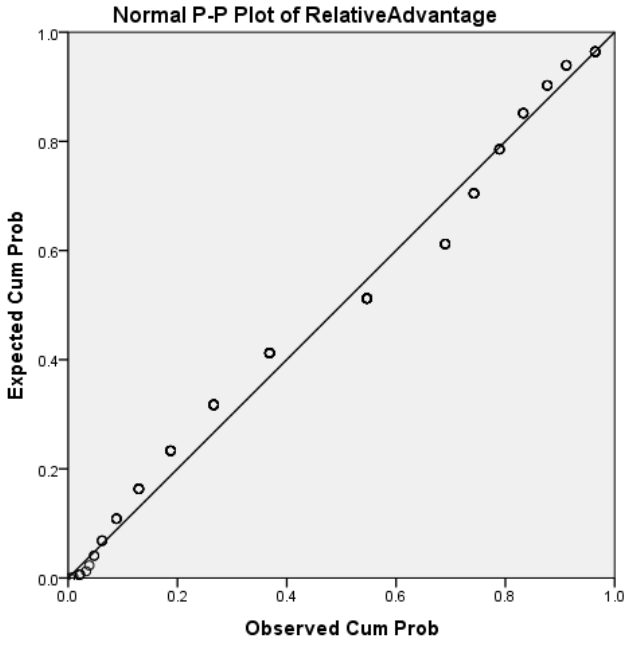

## Interactivity



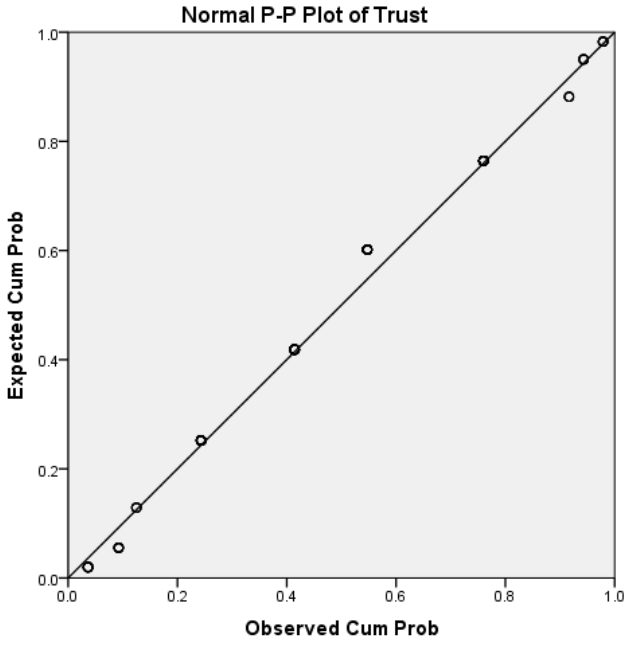
## Cost Effectiveness



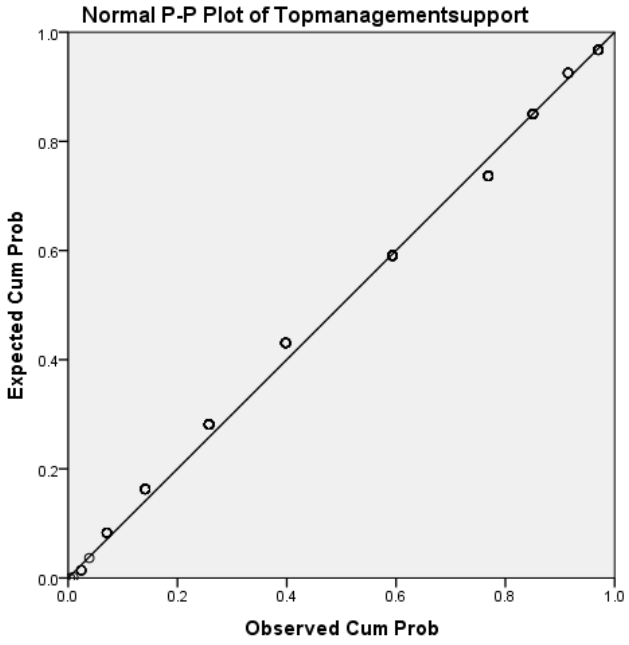

## Relative Advantage



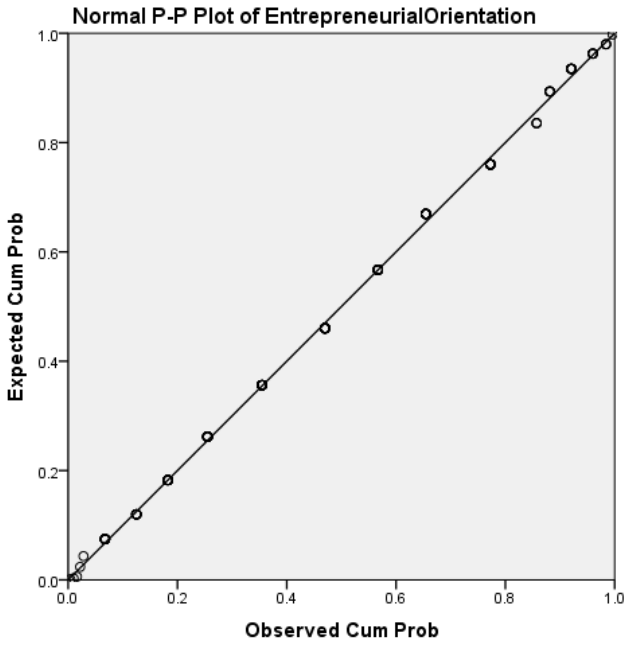
## Trust



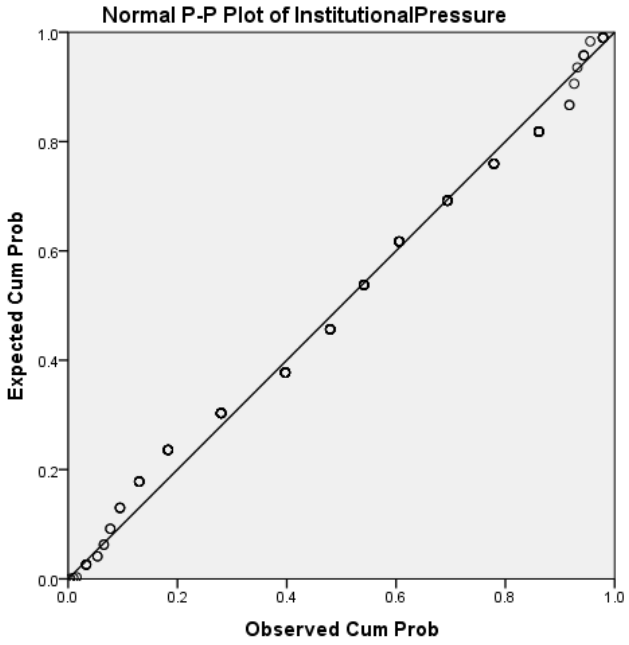

## Top Management Support



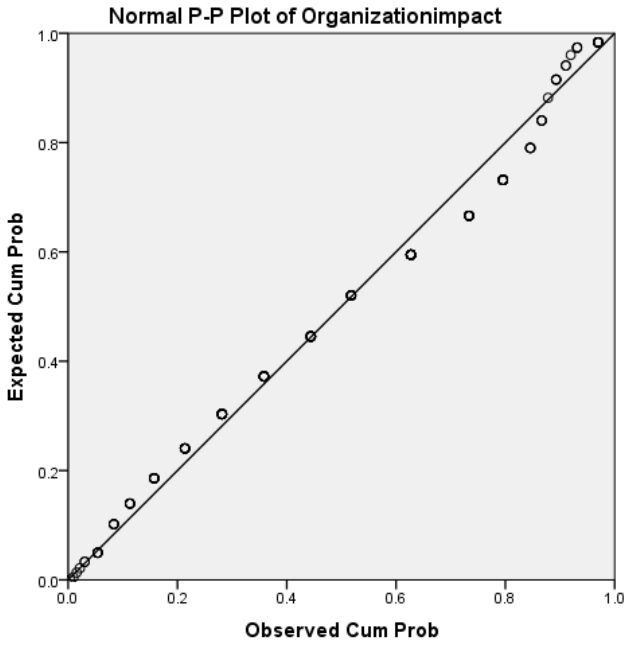
## Entrepreneurial Orientation



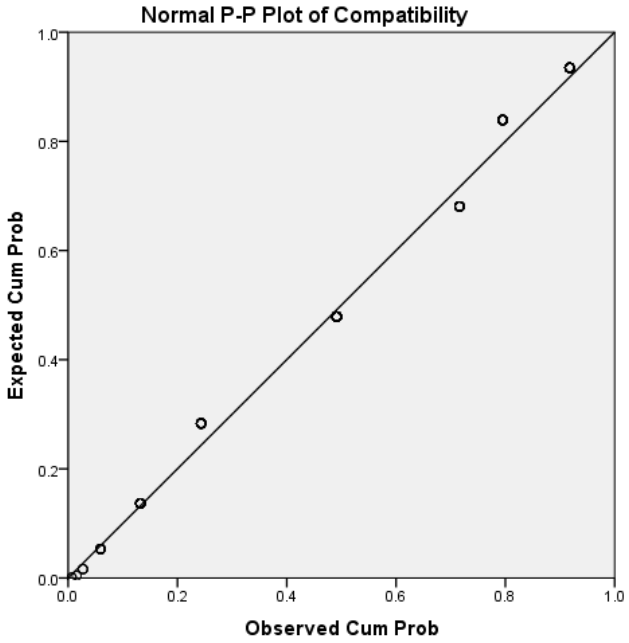

## Institutional Pressure



## Organizational Impact




## Compatibility



# Appendix 7 – EFA Results

| Rotated Component Matrix[a] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Component | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Relative Advantage2 | .862 | | | | | | | |
| Relative Advantage3 | .849 | | | | | | | |
| Relative Advantage4 | .778 | | | | | | | |
| Relative Advantage1 | .734 | | | | | | | |
| Relative Advantage5 | .675 | | | | | | | |
| Relative Advantage7 | .525 | | | | | | | |
| Relative Advantage6 | .487 | | | | | | | |
| Top Management Support2 | | .780 | | | | | | |
| Top Management Support1 | | .766 | | | | | | |
| Top Management Support3 | | .750 | | | | | | |
| Top Management Support4 | | .641 | | | | | | |
| Cost Effectiveness3 | | | .848 | | | | | |
| Cost Effectiveness1 | | | .796 | | | | | |
| Cost Effectiveness2 | | | .777 | | | | | |
| Trust2 | | | | .855 | | | | |
| Trust1 | | | | .848 | | | | |
| Trust3 | | | | .838 | | | | |
| Usability3 | | | | | .797 | | | |
| Usability2 | | | | | .771 | | | |
| Usability1 | | | | | .724 | | | |
| Usability4 | | | | | .675 | | | |
| Compatibility2 | | | | | | .790 | | |
| Compatibility1 | | | | | | .755 | | |
| Compatibility3 | | | | | | .669 | | |
| Institutional Pressure1 | | | | | | | .929 | |
| Institutional Pressure3 | | | | | | | .929 | |
| Institutional Pressure4 | | | | | | | .866 | |
| Institutional Pressure5 | | | | | | | | .793 |
| Institutional Pressure6 | | | | | | | | .910 |
| Institutional Pressure7 | | | | | | | | .896 |
| Extraction Method: Principal Component Analysis.<br>Rotation Method: Varimax with Kaiser Normalization. | | | | | | | | |
| a. Rotation converged in 9 iterations. | | | | | | | | |

# EFA- Results

| Rotated Component Matrix[a] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Component | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Social media usage8 | .835 | | | | | | | |
| Social media usage6 | .806 | | | | | | | |
| Social media usage9 | .783 | | | | | | | |
| Social media usage5 | .745 | | | | | | | |
| Social media usage7 | .671 | | | | | | | |
| Social media usage10 | .457 | | | | | | | |
| Entrepreneurial Orientation_INEO4 | | .839 | | | | | | |
| Entrepreneurial Orientation_INE06 | | .826 | | | | | | |
| Entrepreneurial Orientation_INE05 | | .817 | | | | | | |
| Entrepreneurial Orientation_INE07 | | .713 | | | | | | |
| Benefits9 | | | .797 | | | | | |
| Benefits8 | | | .762 | | | | | |
| Benefits10 | | | .743 | | | | | |
| Benefits7 | | | .584 | | | | | |
| Social media usage1 | | | | .926 | | | | |
| Social media usage4 | | | | .926 | | | | |
| Social media usage2 | | | | .625 | | | | |
| Benefits1 | | | | | .798 | | | |
| Benefits2 | | | | | .784 | | | |
| Benefits3 | | | | | .681 | | | |
| Social media usage11 | | | | | | .709 | | |
| Social media usage3 | | | | | | .654 | | |
| Social media usage13 | | | | | | .634 | | |
| Social media usage12 | | | | | | .578 | | |
| Entrepreneurial Orientation_RT2 | | | | | | | .798 | |
| Entrepreneurial Orientation_RT1 | | | | | | | .797 | |
| Entrepreneurial Orientation_RT3 | | | | | | | .769 | |
| Benefits5 | | | | | | | | .854 |
| Benefits6 | | | | | | | | .825 |
| Benefits4 | | | | | | | | .627 |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. | | | | | | | | |
| a. Rotation converged in 9 iterations. | | | | | | | | |

# Appendix 8 - Cross loadings of the reflective indicators

| | CE | CP | Comp | Imp 1 | Imp 2 | Imp 3 | Inno | Int | MP | RT | SA | TMS | Usage1 | Usage2 | Usage3 | RA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CE1** | 0.8074 | 0.1397 | 0.1401 | 0.2357 | 0.1153 | 0.1375 | 0.0623 | 0.1346 | 0.089 | 0.0662 | -0.1215 | 0.1424 | 0.1917 | 0.1354 | 0.2254 | 0.1446 |
| **CE2** | 0.7968 | 0.1773 | 0.2315 | 0.2789 | 0.157 | 0.1444 | 0.0926 | 0.1089 | 0.1591 | 0.1087 | 0.0964 | 0.1508 | 0.2529 | 0.1784 | 0.1721 | 0.0576 |
| **CE3** | 0.8502 | 0.261 | 0.2453 | 0.3416 | 0.2171 | 0.24 | 0.2093 | 0.164 | 0.2071 | 0.1739 | -0.0211 | 0.2504 | 0.2737 | 0.1105 | 0.1813 | 0.0293 |
| **CIP1** | 0.1887 | 0.7898 | 0.5255 | 0.5727 | 0.3308 | 0.5121 | 0.3033 | 0.2223 | 0.5292 | 0.405 | -0.0667 | 0.4726 | 0.2826 | 0.3535 | 0.3126 | -0.018 |
| **CIP3** | 0.1939 | 0.9183 | 0.4547 | 0.5209 | 0.4188 | 0.4248 | 0.2176 | 0.1766 | 0.598 | 0.3272 | -0.0714 | 0.3802 | 0.1856 | 0.3191 | 0.3384 | 0.0095 |
| **CIP4** | 0.2307 | 0.883 | 0.3863 | 0.4723 | 0.3175 | 0.4343 | 0.2812 | 0.2291 | 0.581 | 0.3522 | 0.0249 | 0.3793 | 0.1656 | 0.3139 | 0.3621 | 0.0206 |
| **CO1** | 0.2492 | 0.3695 | 0.8799 | 0.4113 | 0.502 | 0.5165 | 0.418 | 0.2816 | 0.3782 | 0.2938 | -0.0983 | 0.4354 | 0.4477 | 0.369 | 0.3109 | -0.0387 |
| **CO2** | 0.2375 | 0.4503 | 0.8878 | 0.4615 | 0.4715 | 0.5255 | 0.4272 | 0.2639 | 0.3533 | 0.2665 | 0.0316 | 0.4412 | 0.3525 | 0.3453 | 0.3328 | -0.0384 |
| **CO3** | 0.1772 | 0.5542 | 0.8382 | 0.5332 | 0.4398 | 0.6577 | 0.332 | 0.2325 | 0.5408 | 0.3562 | -0.0766 | 0.4611 | 0.4384 | 0.3506 | 0.4207 | -0.0092 |
| **CRBF1** | 0.1464 | 0.2438 | 0.1725 | 0.4349 | 0.1972 | 0.1874 | 0.176 | 0.1686 | 0.2092 | 0.188 | 0.0042 | 0.1932 | -0.0378 | 0.1659 | 0.1938 | 0.1451 |
| **CRBF2** | 0.3071 | 0.5909 | 0.5252 | 0.8763 | 0.3262 | 0.4602 | 0.2499 | 0.2336 | 0.4934 | 0.4104 | -0.1144 | 0.4728 | 0.326 | 0.3416 | 0.3937 | 0.1071 |
| **CRBF3** | 0.3048 | 0.4727 | 0.4466 | 0.8631 | 0.2932 | 0.4699 | 0.2919 | 0.2282 | 0.3356 | 0.3522 | -0.0974 | 0.4507 | 0.2652 | 0.2856 | 0.3976 | 0.0627 |
| **CSBF4** | 0.2376 | 0.298 | 0.4776 | 0.2787 | 0.7679 | 0.3399 | 0.2215 | 0.29 | 0.3139 | 0.1743 | 0.0157 | 0.3989 | 0.2823 | 0.2239 | 0.2419 | 0.0213 |
| **CSBF5** | 0.1085 | 0.3413 | 0.3461 | 0.2319 | 0.8127 | 0.2295 | 0.2369 | 0.2293 | 0.2253 | 0.2111 | 0.0336 | 0.363 | 0.163 | 0.2216 | 0.2449 | 0.0344 |
| **CSBF6** | 0.1368 | 0.3686 | 0.4902 | 0.3786 | 0.8639 | 0.3335 | 0.189 | 0.2951 | 0.3171 | 0.2635 | -0.1105 | 0.4309 | 0.2086 | 0.2903 | 0.2023 | 0.0411 |
| **IABF10** | 0.1782 | 0.4055 | 0.6108 | 0.4464 | 0.3007 | 0.8743 | 0.366 | 0.385 | 0.4726 | 0.2472 | -0.201 | 0.4012 | 0.4694 | 0.4248 | 0.3999 | 0.0942 |
| **IABF8** | 0.1729 | 0.5016 | 0.5611 | 0.4691 | 0.3435 | 0.8757 | 0.2866 | 0.3879 | 0.5646 | 0.3131 | -0.0289 | 0.3895 | 0.3567 | 0.376 | 0.5548 | 0.1102 |
| **IABF9** | 0.2226 | 0.5206 | 0.5978 | 0.4915 | 0.3578 | 0.9398 | 0.3673 | 0.4071 | 0.5223 | 0.0622 | -0.1651 | 0.451 | 0.4105 | 0.4075 | 0.4835 | 0.0621 |
| **INEO4** | 0.1137 | 0.2472 | 0.3032 | 0.2149 | 0.2848 | 0.2447 | 0.77 | 0.289 | 0.1127 | 0.1839 | 0.0041 | 0.3644 | 0.2421 | 0.1891 | 0.1473 | 0.0503 |
| **INEO5** | 0.088 | 0.1725 | 0.3914 | 0.266 | 0.2001 | 0.3161 | 0.8163 | 0.3407 | 0.1104 | 0.1555 | -0.0043 | 0.3508 | 0.3024 | 0.2693 | 0.241 | 0.0352 |
| **INEO6** | 0.1381 | 0.2579 | 0.374 | 0.3225 | 0.1423 | 0.3337 | 0.8528 | 0.3449 | 0.1806 | 0.383 | -0.1109 | 0.4695 | 0.3156 | 0.2732 | 0.2548 | 0.0604 |
| **INEO7** | 0.137 | 0.3217 | 0.3487 | 0.2017 | 0.2407 | 0.2938 | 0.7364 | 0.4035 | 0.2315 | 0.2642 | -0.072 | 0.4154 | 0.2453 | 0.2807 | 0.2235 | 0.0471 |
| **INF1** | 0.1331 | 0.2 | 0.2552 | 0.2505 | 0.2333 | 0.353 | 0.3129 | 0.8006 | 0.1809 | 0.3773 | -0.1095 | 0.353 | 0.2323 | 0.2186 | 0.3484 | 0.0213 |
| **INF2** | 0.0609 | 0.2039 | 0.2432 | 0.1937 | 0.2938 | 0.3171 | 0.38 | 0.7771 | 0.1477 | 0.3225 | -0.0254 | 0.2596 | 0.1952 | 0.2647 | 0.2124 | 0.0857 |

| | CE | CP | Comp | Imp1 | Imp2 | Imp3 | Inno | Int | MP | RT | SA | TMS | Usage1 | Usage2 | Usage3 | RA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INF4** | 0.1772 | 0.1788 | 0.2148 | 0.2135 | 0.2724 | 0.3624 | 0.3468 | 0.7926 | 0.2486 | 0.3464 | -0.1355 | 0.2649 | 0.3447 | 0.2786 | 0.3543 | 0.0515 |
| **MIP5** | 0.2021 | 0.684 | 0.4902 | 0.469 | 0.3922 | 0.5942 | 0.2311 | 0.3087 | 0.9189 | 0.4068 | -0.1135 | 0.4551 | 0.391 | 0.3752 | 0.4262 | 0.161 |
| **MIP6** | 0.1469 | 0.5862 | 0.4506 | 0.4367 | 0.2907 | 0.5189 | 0.1757 | 0.189 | 0.9448 | 0.3544 | -0.1194 | 0.348 | 0.3175 | 0.3125 | 0.3988 | 0.0844 |
| **MIP7** | 0.1651 | 0.5444 | 0.4237 | 0.4163 | 0.2856 | 0.4871 | 0.1446 | 0.1865 | 0.907 | 0.1782 | -0.0223 | 0.2996 | 0.2702 | 0.3265 | 0.4081 | 0.1342 |
| **RTEO1** | 0.1431 | 0.4193 | 0.3355 | 0.4467 | 0.2137 | 0.3534 | 0.4081 | 0.2486 | 0.3718 | 0.8844 | -0.134 | 0.3961 | 0.2453 | 0.2425 | 0.2987 | 0.1213 |
| **RTEO2** | 0.0792 | 0.3483 | 0.296 | 0.4033 | 0.1282 | 0.3167 | 0.4134 | 0.24 | 0.3038 | 0.8945 | -0.0271 | 0.3658 | 0.1804 | 0.2896 | 0.2395 | 0.1531 |
| **RTEO3** | 0.1511 | 0.3232 | 0.291 | 0.2823 | 0.0684 | 0.316 | 0.3554 | 0.2563 | 0.2294 | 0.8264 | 0.0568 | 0.2102 | 0.2571 | 0.2201 | 0.2062 | 0.0412 |
| **SATR1** | 0.0172 | -0.0392 | -0.048 | -0.0918 | -0.0281 | -0.131 | -0.0369 | -0.1036 | -0.0831 | 0.2819 | 0.9671 | -0.1369 | -0.1211 | 0.0131 | -0.0275 | 0.0145 |
| **SATR2** | 0.0218 | -0.037 | -0.0489 | -0.0892 | -0.0236 | -0.1336 | -0.0469 | -0.1063 | -0.0861 | 0.1617 | 0.965 | -0.1377 | -0.1263 | 0.0218 | -0.0233 | 0.0166 |
| **SATR3** | -0.0808 | -0.0483 | -0.067 | -0.1203 | -0.0248 | -0.1384 | -0.09 | -0.1327 | -0.093 | 0.2159 | 0.8575 | -0.1535 | -0.1211 | -0.0227 | -0.0385 | 0.0761 |
| **TM1** | 0.1429 | 0.3426 | 0.4583 | 0.3875 | 0.4492 | 0.4082 | 0.4426 | 0.3467 | 0.3536 | 0.3528 | -0.1951 | 0.8328 | 0.3881 | 0.263 | 0.2894 | -0.0069 |
| **TM2** | 0.2133 | 0.3899 | 0.4724 | 0.5244 | 0.4223 | 0.4154 | 0.4515 | 0.3059 | 0.3256 | 0.2748 | -0.1975 | 0.8301 | 0.3013 | 0.275 | 0.3008 | 0.1491 |
| **TM3** | 0.2097 | 0.4016 | 0.4314 | 0.4154 | 0.3797 | 0.3813 | 0.4256 | 0.3337 | 0.3431 | 0.3403 | -0.0533 | 0.8357 | 0.3411 | 0.3083 | 0.3522 | 0.1356 |
| **TM4** | 0.1613 | 0.4354 | 0.3205 | 0.3873 | 0.3526 | 0.3047 | 0.3328 | 0.2182 | 0.2944 | 0.1817 | -0.0622 | 0.7735 | 0.2732 | 0.2861 | 0.3316 | 0.0558 |
| **MUsage1** | 0.193 | 0.1901 | 0.3782 | 0.2199 | 0.1751 | 0.338 | 0.2673 | 0.2804 | 0.2369 | 0.1048 | -0.1217 | 0.3278 | 0.8012 | 0.4046 | 0.3415 | 0.0224 |
| **MUsage2** | 0.1871 | 0.1317 | 0.3094 | 0.1042 | 0.1877 | 0.2517 | 0.2083 | 0.207 | 0.1784 | 0.3094 | -0.2271 | 0.285 | 0.6741 | 0.211 | 0.2886 | 0.0928 |
| **MUsage4** | 0.2688 | 0.2202 | 0.3817 | 0.3026 | 0.2394 | 0.4136 | 0.3004 | 0.265 | 0.3562 | 0.2716 | 0.0018 | 0.2913 | 0.7692 | 0.4946 | 0.501 | 0.1722 |
| **CRUsage5** | 0.0847 | 0.2647 | 0.3861 | 0.2306 | 0.2685 | 0.4056 | 0.2327 | 0.266 | 0.2898 | 0.4344 | 0.0055 | 0.2538 | 0.5209 | 0.8211 | 0.3948 | 0.1207 |
| **CRUsage6** | 0.1122 | 0.3082 | 0.3887 | 0.277 | 0.2887 | 0.3989 | 0.2629 | 0.2235 | 0.3127 | 0.2589 | 0.0137 | 0.3066 | 0.4413 | 0.8584 | 0.349 | 0.1661 |
| **CRUsage7** | 0.2139 | 0.3818 | 0.331 | 0.4088 | 0.2615 | 0.4103 | 0.3084 | 0.2981 | 0.3343 | 0.3009 | -0.0587 | 0.3621 | 0.4349 | 0.8166 | 0.4339 | -0.0541 |
| **CRUsage8** | 0.16 | 0.3025 | 0.305 | 0.2908 | 0.2189 | 0.319 | 0.2104 | 0.263 | 0.3136 | 0.2787 | 0.0214 | 0.2422 | 0.4074 | 0.8751 | 0.4863 | 0.0019 |
| **CRUsage9** | 0.1457 | 0.3342 | 0.3017 | 0.2972 | 0.2222 | 0.3338 | 0.3314 | 0.2979 | 0.2866 | 0.2157 | 0.0503 | 0.2696 | 0.3551 | 0.8234 | 0.5098 | -0.0754 |
| **MUsage3** | 0.2048 | 0.3685 | 0.2943 | 0.3758 | 0.2426 | 0.3284 | 0.3237 | 0.3003 | 0.3394 | 0.269 | -0.1385 | 0.3371 | 0.4967 | 0.3835 | 0.7229 | -0.0724 |
| **ISUsage12** | 0.1405 | 0.2869 | 0.3056 | 0.3593 | 0.179 | 0.4534 | 0.0741 | 0.2865 | 0.4019 | 0.2363 | -0.0158 | 0.2737 | 0.3808 | 0.3964 | 0.8069 | -0.0517 |
| **ISUsage13** | 0.2095 | 0.2751 | 0.3685 | 0.3399 | 0.2436 | 0.4781 | 0.2653 | 0.3484 | 0.314 | 0.2666 | 0.0663 | 0.3123 | 0.358 | 0.4381 | 0.8274 | 0.1427 |

| | CE | CP | Comp | Imp1 | Imp2 | Imp3 | Inno | Int | MP | RT | SA | TMS | Usage1 | Usage2 | Usage3 | RA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RA1** | -0.0732 | -0.0622 | -0.0638 | 0.0458 | -0.0267 | -0.0526 | -0.0173 | 0.098 | 0.0328 | 0.0558 | -0.0184 | -0.0149 | 0.0292 | -0.0195 | 0.0453 | 0.7328 |
| **RA2** | -0.1157 | -0.0334 | -0.0883 | 0.0656 | -0.0714 | 0.0274 | 0.0315 | 0.0536 | -0.0076 | 0.0224 | -0.0464 | -0.1046 | 0.069 | -0.0003 | -0.0186 | 0.6889 |
| **RA3** | -0.1236 | -0.0385 | -0.1226 | 0.0916 | 0.0183 | -0.0334 | -0.0196 | 0.0334 | -0.0019 | 0.0928 | -0.1129 | -0.1204 | 0.1261 | -0.0172 | 0.0515 | 0.7671 |
| **RA4** | 0.0767 | 0.0208 | -0.0058 | 0.104 | 0.0647 | 0.0291 | 0.0656 | 0.1624 | 0.0119 | 0.1722 | -0.05 | 0.0182 | 0.1738 | 0.1647 | 0.0787 | 0.8606 |
| **RA5** | 0.032 | -0.0457 | -0.0532 | 0.0621 | 0.0079 | -0.0238 | 0.0232 | 0.0923 | -0.0455 | 0.1207 | -0.0792 | -0.0762 | 0.0603 | 0.0556 | -0.0293 | 0.6984 |
| **RA6** | 0.0673 | 0.0475 | 0.0223 | 0.1277 | 0.0897 | 0.1318 | 0.0932 | 0.1639 | 0.0817 | 0.1661 | 0.0282 | -0.1182 | 0.186 | 0.0668 | 0.0857 | 0.7835 |